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COSMETICS
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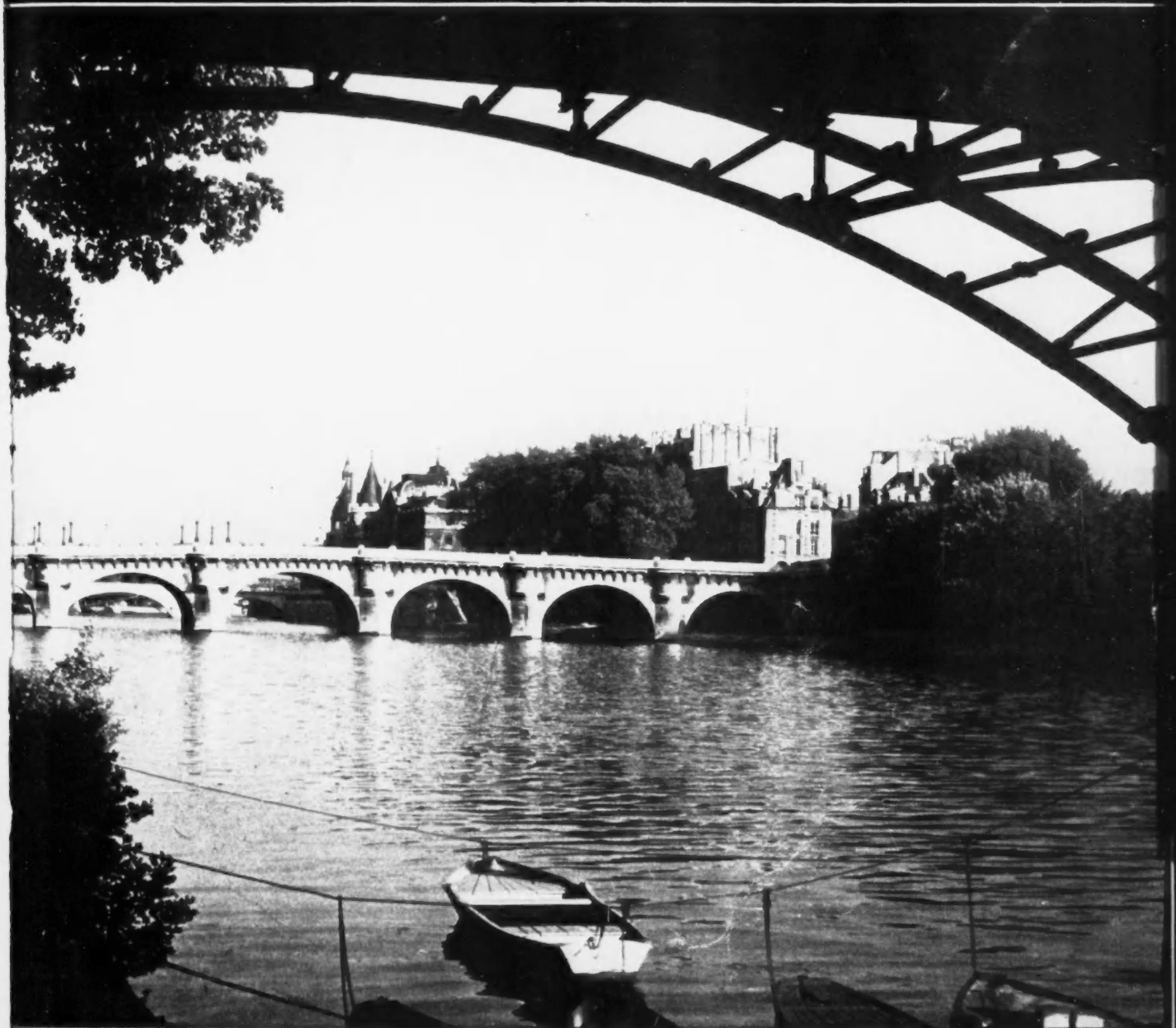
In Two Sections
SECTION 1

JULY 1956

THE MAGAZINE OF TASTE AND SCENT



Oxidation Hair Dyes...Page 25 • Lactone Flavor Components...Page 53

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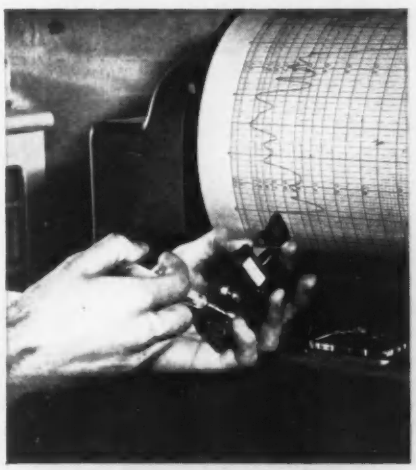

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BOOK Reviews

GUIDE DES INDUSTRIES DE LA PARFUMERIE 1955-1956. Ch. Hieblot, editor. 9 x 11 in., 392 pages, thumb indexed. Heavy covers. Publi-Guid, Paris, France. Price $8.00.

This is the fourth edition of a publication that has been well received in France. It is in French. Among the sections are: Raw Materials, Products Used in the Manufacture of Cosmetics and Perfumes, Equipment and Machinery, Toilet Articles for Beauty and Hairdressing Shops, Importers, Associations, Trade Marks, Wholesalers and Manufacturers. The book also contains much useful information on all of the principal manufacturers of various cosmetics, etc. in France.

BUCH DER AROMEN, by Alfons M. Burger. Buchdruckerei Werner Villiger, Wadenswil, Switzerland. 1955. 286 pages, 6½ x 9½ in., illustrated and indexed. (In German). Price 39 F (Swiss).

This is the second edition of a very popular book on the subject of flavors. Basic materials, fundamentals in plant layout and equipment of flavor manufacture are complemented by numerous formulas for all kinds of flavors. A section on colorings completes the book.

The present volume is made better and printed in more legible layout. Those involved in flavor usage or manufacture will find the new edition a valuable one.—*M. G. deN.*

PRODUCT LIABILITY CASES, by Frank T. Dierson and Charles Wesley Dunn. Commerce Clearing House, Inc., Chicago 1, Ill. 1955. 1134 pages, 6½ x 9½ in., indexed. Price $12.00.

This is the eighth book in a series entitled "Food Law Institute Series."

Every manufacturer or executive should at least glance through a book of this type to know the causes of product liability cases and the courts reasoning in determining liability.

This volume compiles the leading cases, not all the product liability cases, during the period 1947-53, plus additional cases including leading decisions in the past decade.

The following are some of the cases which are interesting from a cosmetic point of view: alkali in shampoo (p. 247); seven cases of cosmetic allergy; dye in face powder (p. 951); cold wave (p. 260); bleach cream (p. 603); fourteen cases against cosmetic products; seven cases against hair dyes; hair lacquer (p. 129); hair waving (p. 1095); hair straightening cream (p. 87); perfume dermatitis; and baldness from shampoo, 3 cases.

This book is principally valuable to lawyers, company executives and technical personnel, to the latter to show the kind of testimony used and the result of its use.

The book is well made and nominally priced.—*M. G. deN.*

THE FORMULATION OF COSMETICS AND COSMETIC SPECIALTIES. William R. Kreithler. 6 x 9 in., 494 pages, 66 chapters. Illustrated. Drug & Cosmetic Industry. 1956. Price $9.50.

The author wrote this book as a guide to the formulation and manufacture of cosmetics and cosmetic specialties with the intention of indicating the more recent developments in the science. With its numerous formulas and clearly written text it should be of special interest to chemists, cosmetic technicians, executives and students.

The book is arranged with twelve sections. In the first, which is introductory, the following chapters indicate the general nature of the section: What are Cosmetics?, Cosmetic Dermatology, Emulsions, Preservatives, Perfuming Cosmetics, Quality Control, and Duplication of Competitive Products. In Section II on Creams, nine types are analyzed; in the Section on Powders, face and toilet powders are covered; and in the Section on Make-up there are five relevant chapters. Ten chapters are included in the Section on the Hair, one on aerosol hair lacquers. In the Section on Hair Removal, depilatories, preshaving products, aerosol shaving creams, brushless shaving creams, lather shaving creams and miscellaneous shaving preparations are discussed. Other sections with from one to seven chapters in each are: Lotions, Oral Hygiene, Miscellaneous Cosmetics—including cosmetic aerosols; Manicure Preparations, Proprietary Medicinals and Specialties and Equipment. An 8-page index adds to the value of the volume.

PLANT PHYSIOLOGY. Meirion Thomas. Fourth Edition. 6 x 9 in., 692 pages, 89 illustrations. Cloth covers. Philosophical Library. Price $12.00.

The subject matter of this edition is more extensive than that of the 1947 edition due to advances in knowledge. Otherwise the basic material is incorporated, amplified by facts which were discovered in the interim.

The most extensive changes are in the chapters dealing with the enzymes, respiration and photosynthesis and in scattered sections dealing with absorption of water and solutes, transpiration, stomatal movement, Crassulacean acid metabolism, cell growth and auxins. A new chapter reports facts and views about photoperiodism and vernalization and an appendix has been added describing those techniques used in partition chromatography and in experiments with isotopic tracers which have led to some of the main developments reported.

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LAST MINUTE NEWS . . .

Toilet Soap as We Know It on the Way Out, says Foundation

Toilet soap as we know it today is on its way out according to Dr. Henry B. Hass, president of the Sugar Research Foundation. Detergents made from sugar will one day replace soaps in American homes in his opinion, as indications are that sugar ester detergents can be commercially successful. European firms are anxious to produce them because Europe has a surplus of beet sugar, and sugar detergents work especially well in hard water.

Motivation Research a Fad Like Pink Shirts says Expert

Motivation research is in the nature of a fad like pink shirts, Prof. Harold C. Cash of the Dept. of Marketing, New York University, told the Pharmaceutical Advertising Club of New York. Fads do not ordinarily last long. But he conceded that current interest in motivation may last longer than the pink shirt fad, partly because it has an emotional impact and a sort of snob appeal due to the fact that it is "somewhat exclusive." Motivation research still holds some promise but it can be improved by insisting that the researcher explain to clients just how he gets his results. The idea of employing social scientists as interviewers leads only to their bringing in their own theories.

New House-to-House Concern to Sell Cosmetics All Over U. S.

Cort Cosmetics, Inc. has been organized by Mort Heineman, executive vice president of the Franklin Bruck Advertising Agency, to sell a full line of cosmetics house-to-house throughout the United States. Treatment items, make-up items and fragrance items are to be offered under the Cort brand name. Market testing is being conducted in a number of markets in various sections of the country. Offices of Cort Cosmetics are at 37 W. 65 St. New York, N. Y. Later a mail order business may be started to supplement house-to-house selling. As Coty Inc. is a client of the Franklin Bruck Advertising Agency, rumors that the new concern was a subsidiary of Coty were circulated. In answer, Mr. Heineman stated that neither Coty Inc. nor any of its officers have any financial interest in the new concern. However Coty is one of the companies that produce cosmetics for the new concern.

Beech Nut Packing Co. and Life Savers Corp. to Merge

Managements of Beech Nut Packing Co. and Life Savers Corp. have approved a plan to merge the two concerns under the name of Beech Nut Life Savers Inc. Approval of the respective boards and stockholders is expected.

Continental Can Co. May Merge with Robert Gair Co.

A merger of the Continental Can Co. with the Robert Gair Co. manufacturers of corrugated paper boxes and other paper containers is awaiting approval of the directors and stockholders of both companies. Approval is expected from both.

National Chemical Credit Assn. Annual Summer Party

The annual Summer party of the National Chemical Credit Assn., Eastern division, formerly the Drug, Cosmetic & Chemical Credit Men's Assn., was held June 22 at the Braidburn Country Club, Madison, N. J. A golf tournament was held in the afternoon and other recreational facilities contributed to make the affair enjoyable. All ladies received a bottle of perfume as a door prize. New officers are: Walter J. Naber Jr., chairman; Edgar B. Smith, vice chairman; J. Sommerville, treasurer; and Miss Clare Gincel, division secretary.

Officers of Asociacion Nacional de la Industria de Perfumeria

New officers of the Asociacion Nacional de la Industria de Perfumeria, Mexico City, Mexico, who were elected June 19 are: President, Augustin S. Cellen; Vice President, Humberto Casal; Secretary, Jose Luis Arguellas; Under Secretary, Andre Salamon; Treasurer, Fransisco Huerta; and Under Treasurer, Guillermo Trevino. Directors: Eduardo Lopez, Ruben Acuna and Alejandro F. Godefroy.

Revlon has Given Away $688,608 and Ten Cadillacs

Since the $64,000 Question TV feature of Revlon Products Corp. took the country by storm in May 1955 it has given away $688,608 and ten Cadillac automobiles. Four of the contestants took home the maximum winnings, $64,000 each.

First Deodorant Stick for Children Launched

The first deodorant stick designed especially for children was introduced June 20 by Helene Pessl Inc. makers of Little Lady and Little Lady Deb toiletries. Although the predominant idea in designing the deodorant, according to Arnold Perlman, president, was to specifically provide active young girls with their very own protection during hot, play-filled days, the new product is expected to attract attention among adults who want an exceptionally mild deodorant. It comes in a plastic swivel case and retails for 89 cents.

Cranberry Juice Brings Out Flavor of Mixed Drinks

Cran, sweetened, full strength cranberry juice, has been launched by Cranberry Growers to be used to bring out the flavor of mixed drinks. According to the company when mixed with any alcoholic beverage—from vodka to Scotch and gin—Cran has no taste of its own but picks up the taste of the basic ingredient and adds lustre and color to it. The National Cranberry Assn. has prepared a professional barman's manual for Cran. Recipes using Cran in non-alcoholic beverages, salads, sherbets, pies, etc. are being tested and the company expects to establish it as a grocery store product.

Value Shipments of Flavoring Products at $445,000,000

The Census Bureau has just issued the following statistics on the flavoring products industry:

There are 16,000 persons employed in the flavoring products industry, with an annual payroll of 66 million dollars, out of which employees, there are 10,000 production workers working 20 million man-hours and are paid wages of 33 million dollars. That the value added by the manufacturers in the manufacturing and processing of extracts, flavors, etc., is 199 million dollars. That the cost of materials is reported 246 million dollars; with value of shipments of 445 million dollars. That new capital expenditures are in the amount of 9 million dollars.

That regarding the number of employees engaged in 1947, reports as filed indicated that there were 12,000 employees engaged in the flavoring products industry and that the value added by the manufacturer in 1947 for the manufacture and processing of finished extracts and/or flavors was in the value of 156 million dollars.

That regarding chocolate and cocoa products, 8,000 employees are engaged in said industry, with a payroll of 33 million dollars; that 7,000 persons are engaged in production and the man-hours of the production workers total 14 million hours, with wages of 23 million dollars. That the value added by the manufacturer in the manufacturing and processing of chocolate and cocoa products is 82 million dollars and the costs of materials, etc., is 351 million dollars, and the value of shipments in the amount of 443 million dollars. That new capital expenditures are in the amount of 4 million dollars.

That employees engaged in the chocolate and cocoa products industry in 1947 were 10,000 and the value added by the manufacturer in the manufacturing and processing of chocolate and cocoa products was 98 million dollars.

The Bureau of Census within the near future will issue a complete release of the compilation of the census of 1954 of manufacturers of flavoring extracts and flavoring syrups.

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Editorials . . .

Motivation Research . . .

Much is being claimed for motivation as an aid to selling techniques. Conceding the sincerity of its devotees and admitting the advantages if accurate and dependable results of motivation research are attainable, it would seem that the scientists have undertaken a task fraught with obstacles.

For their research there are three methods available to psychologists: 1. Introspection of his own reactions by the psychologist himself. 2. Observation and questioning of others. 3. Experiment. One cannot read the studies of experienced psychologists such as Pillsbury, Angel, Jastrow, Munsterberg and others without realizing that there are pitfalls in all three methods. Munsterberg has shown the vagaries of ordinary observation and the inaccuracies that may result from carefully conceived experiments among even highly intelligent people.

What degree of accuracy can reasonably be expected from motivation research at this stage of the development of the science to provide manufacturers with tools that will permit them to neglect other factors of marketing? Deep rooted psychological motives are likely to be overlooked. The amount of shopping around one has to do, the price one has to pay for goods and the way goods smell, taste, feel, look or perform are also motives.

Despite years of study by conscientious psychologists, exploration of the human mind is still pretty much a baffling, and a fascinating undertaking which often leads to doubtful conclusions. What chance then is there of accurately exploring the minds of not one but hundreds and even millions in all walks of life existing under various economic conditions?

Sympathy for Victims in Product Liability Suits . . .

In the past year 30 cases arising out of product liability in the cosmetic, flavor, soap and detergent industries reached the higher courts. While a review of the cases does not disclose any new law on the subject, it does reveal that sympathy for the injured party either consciously or unconsciously influences juries as well as courts in rendering verdicts and emphasizes the need for utmost care in defending such suits. Perhaps this may be illustrated by one of the cases decided in the Supreme Court of Mississippi.

A baby, two years old, picked up a bottle of Coca Cola from a carton on the porch. The bottle exploded and a fragment of glass put out one of the infant's eyes. The baby was outside and the mother was inside the house at the time of the accident. According to testimony given by the mother there was was no external impact with the bottle. The mother brought suit for substantial damages and judgement was rendered against the bottling company in favor of the mother.

The case was appealed. The Appellate Court carefully considered the testimony of the bottling company's manufacturing experts showing the care exercised in the bottling process and the inspection and testing of the bottles. Testimony of the company's scientists concerning the pressure required to burst a Coca Cola bottle, the pressure at which the cap would be released, and the pressure which is contained in a bottle both lying dormant and after agitation was also carefully considered. The evidence was extremely inclusive and showed the unlikelihood of a Coca Cola bottle ever exploding.

The company also produced testimony of scientists who had been given the fragments of the particular bottle and who had independently of one another reconstructed the bottle with the definite conclusion that it had been exploded by external impact. The evidence, so carefully assembled, was complete, well documented, convincing—and uncontroverted. So the Appellate Court dismissed the suit brought by the mother.

This case illustrates the tendency of the courts to commit errors, particularly in food and beverage cases in order to overcome the complainant's inability to prove essential facts. Most juries are willing to be convinced but their natural sympathies are with the victim who brings the suit. Their sympathies are usually so great in favor of the one who brings the suit that the defendant bottling company, cosmetic or soap manufacturer or whoever it might be, has the practical burden in almost all cases of proving by a great preponderance of evidence that he is not responsible for the injury or illness complained of. That implies the expenditure of much money to insure utmost efforts to investigate every possibility of proof in defending a product liability suit.

A Psychological Motivation Experiment . . .

About fifty years ago, long after the death of Johan Pestalozzi, the noted educator who virtually compelled the scholastic world to adopt his ideas on the proper way to lead a child toward its proper destiny, psychologists became interested in lending their skill to the advancement of some of his ideas. In this connection a story is told, probably apocryphal, of a psychological experiment to determine a child's predilections, or, as it might be termed today, his motivations.

On a large tray numerous articles by which a child's proclivities might be revealed, were placed. Among the objects were a dollar bill, a book, a photograph of a pretty woman and a poker chip. A bright boy was invited to select anything on the tray that he liked.

After figetting around for a few minutes the boy grabbed everything in sight. While this was probably not exactly the result expected, to onlookers it implied quite naturally that the youth was destined to become the head of a giant business enterprise or a politician.

The fact that in manhood he rose to be an efficient waiter instead of the head of a great business corporation should not necessarily be regarded as prejudicial to the value of psychological experiments. Life is very complex and is affected by fortuitous circumstances, breaks and luck. Factors that are positively unforeseeable or that have been ignored or inadequately stressed have a way of upsetting even the most carefully planned and executed psychological experiment.

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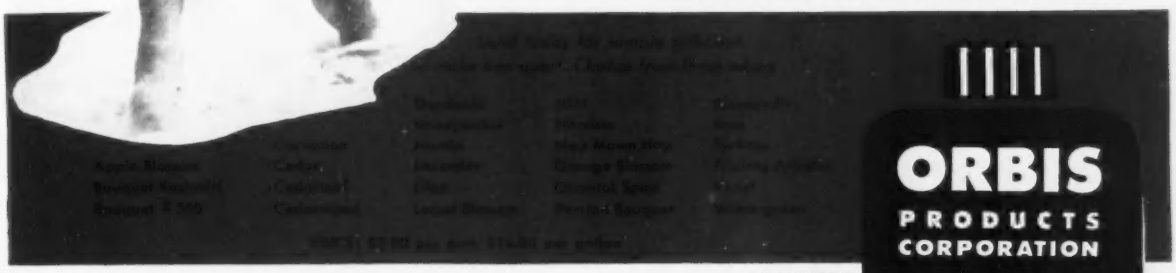

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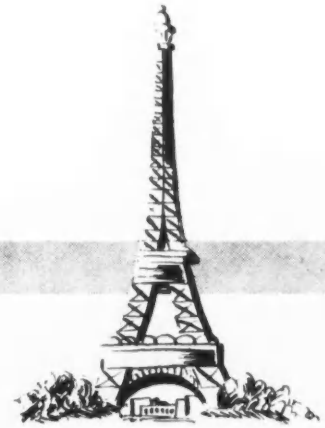

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DESIDERATA

Maison G. deNavarre, F.A.I.C.

T.G.M.A. Convention

It was at Lake Placid this year and it looks like that is where it will be for the next five years.

Wonderful, friendly and hospitable people, with their own culture, these Canadians. It is a real treat to be with them. But it sure hurts when one of your own countrymen is speechifying at an evening banquet and throwing brickbats *again* at the Yankee toilet goods industry. It even made a lot of the Canadians sore. Why do you do it, Don? Wasn't Bigwin bad enough? Sorry you didn't hear Steve Mayham answer you the following night.

Steve was right—again—this industry is first, last and always—an idea—then the science. Good talk Steve!

The Merchandising Panel was OK *but*—no one from supermarkets or direct selling companies on it. Who was asleep at the switch?

Our good friend "Tommy" Thomson did his usual fine stint. He also got in too late for dinner Sunday and guess I stood him up to climb Whiteface Mountain (only the last 1200 feet or so). Sorry, "Tommy", it was a misunderstanding. Hope you got up anyway.

These people have a way of mixing business and a holiday that isn't hard to take. Quite a few Yanks were there, too. The deNavarres won no prizes.

A.M.A. Cosmetic Symposium

Inviting certain technical people from the cosmetic industry to the Dermatological Symposium on cosmetics was a "first". Hope it continues.

But a couple of suggestions to the organizers of the symposium. Maybe an industry speaker on the same program would not be amiss. Also, the dermatologists don't have to simplify so much, presumably for the cosmetic chemists sake. We are pretty used to the phrases, words and expressions used by dermatologists, at the highest scientific level.

Such get togethers are bound to do a lot of good. In fact, the discussions after the affair was over were indeed illuminating and stimulating, as the one on sodium zirconium lactate deodorant sticks.

Thanks for inviting cosmetic chemists, committee on cosmetics! Please invite us again.

West Indies Cosmetics

While I haven't been to them all, the half dozen or so of the islands that I have visited are devoid of a domestic cosmetic industry, excepting for some in Cuba and the well known perfumery business in Bermuda (which isn't in the West Indies). At least one project was underway in Jamaica once, but I don't know what happened to it. Here in the Bahamas where this is being written, they push French and British toiletries at rates significantly below those paid for the same articles in the States. And, of course, you can bring in only one bottle of a brand, under your free quota when coming back to the States. Some day the smart (?) European perfumers may find they have protected themselves out of business.

It would be a good place for broken down old aged (over 40) cosmetic chemists to settle down and get a cosmetic business going, if they could hook-up with someone who could sell what they made. The cosmetic needs of the islands are different from those in the milder climates as in the States. The air is usually humid, which should keep skin soft, but the hot sun literally cooks the skin, resulting in a discolored and parched epidermis. Colors are different due to difference in dress. The tendency to go natural has different requirements too. In addition the white population is small and the colored natives cosmetic needs are different. While money may be scarce among some classes, it is amazing how they like perfumed products. A grant from the Ford Foundation could help a fella study these needs in the islands for say a year or so. My application is already in for the job.

Notes

A report from the Pasteur Institute by Gautherie and Langlade indicates that Royal jelly has "antibiotic" and bactericidal action against human tuberculosis bacteria . . . a toothpaste containing 5-hydroxy-1-methyl-2-isopropylbenzene (1:1500) is said to be antiseptic against grain positive and grain negative organisms according to Tanaka. . . . It was interesting to find that in all classes of society in Puerto Rico the man *TRULY* is the *BOSS*. . . . I have been told that the duty on rum for example, is $2.45 from the Bahamas, when you bring in more than your duty free

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gallon (provided you are in the Bahamas for 48 hours or more)—this is especially interesting when you can buy rum for as little as $1.40 and good stuff at $2.00 a bottle (fifth) . . . The polyacrylate type of gums, solubilized with an alkali, do not have a fixed viscosity; it keeps increasing with age, just like tragacanth. . . . Have you given oleyl alcohol a try as a *special* ingredient in your cream or lotion? Some commercial blends with the higher alcohols certainly give the skin a smooth feeling. . . Seems like Egyptian women 4000 B.C. or more were big users of cosmetics, which remind me that a note picked up somewhere gives the Queen of Sheba (about 1000 B.C.) credit for discovering depilatories. . . . Seems like the *latest* cold waves are based on monoethanolamine thioglycolate —that's the stuff that was used over 10 years ago, right after the episode with ammonium hydrosulfide —so what is really new? . . . Understand there is a litigation on the use of bromate cold wave neutralizers—if just certain notebooks and people were available . . . Methinks that Thomas and Gribou, who presented a paper on azulenes before the T.G.A. Scientific Section, should present a paper on its therapeutic trials on a significant number of cases, controlled, then evaluated, to see if a concentration of 1:20,000 does really do any good, or is it just a selling point? . . . We all await results of Rostenberg's work on animals with sodium zirconium lactate. . . . Saw Emil Klarmann in Chicago among others at the A.M.A. Cosmetic Symposium. We covered a lot of ground on nonionic emulsifiers and preservatives —By the way he had just returned from Philadelphia where he got an honorary D.Sc., from the Philadelphia College of Pharmacy—again congratulations. . . .

Bob Kramer just got back from giving a paper in Brussels on cosmetic achievements in the U.S.—afterwards met a Danish group of cosmetic chemists. . . . Adalene Johnston president of Beauty Counselors of Canada Ltd. (with whom I work closely), was elected a director of the Canadian TGMA, at the same time Andre Ligne (Coty) was elected president along with a complete set of officers. . . . Never got to thank Bob Schwartz for the results of his T.G.A. convention effort last May. The attendance proved how interesting it really was. . . . The Sagarin, Klarmann, Powers and Goulden book on cosmetics should be ready next year, possibly February.

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Other subjects related to industrial advertising have been or are being studied by Project Councils of the I.A.R.I. (See Box) Projects are planned and developed by teams of experienced industrial advertising and marketing men.

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- Bibliography of Information on Handling Advertising Inquiries
- How to Establish the Budget for Advertising Industrial Products
- Yardsticks for Evaluating Industrial Advertising Research
- Organizing and Controlling the Industrial Advertising Operations

PROJECTS UNDER DEVELOPMENT

- Use of Market Evaluation Methods in Developing the Industrial Advertising Plan
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QUESTIONS & ANSWERS

1198: VANISHING CREAM FORMULA

Q. *We have inherited the following formula for a vanishing cream which has been made in our hospital pharmacy. It is widely used by our physicians both as is and as a vehicle for medicaments. Because of its excellent acceptance, we hesitate to tamper with the formula. However, it seems unnecessarily complex and we would welcome any comments you might make for simplifying it. (Formula given.) S.C., Pennsylvania.*

A. The formula you give is a poor one, indeed, as you have indicated. Certainly it is at best "shotgun." Our own reaction would be to make a formula containing stearic acid, triethanolamine, preservative, water, propylene glcol, not over 2% of liquid petrolatum, and 1 or 2% of either cetyl or stearyl alcohol. If you use about 15% fatty acid, 3 to 5% of alkanolamine and at least 10% propylene glycol, you should end up with a pretty good cream. If you prefer, you can use 1% potassium hydroxide in place of the amine.

1199: STEARIC ACID

Q. *I am preparing a certain cosmetic in which the main ingredient is stearic acid. I cannot use the purified stearic acid on account of its cost. Therefore, I would like to buy the crude stearic acid and purify it myself so as to obtain it in the white form, and would like some suggestions as to how this can be done. B.N.Y., Florida.*

A. Any commercial grade cosmetic stearic acid is white. Some commercial grades contain over 90 per cent pure stearic acid. There is no stearic acid on the market that is 100 per cent pure stearic excepting at prohibitive prices. The cosmetic grades satisfy everyone else and should work well for you. Names of suppliers are going to you by mail.

1200: NAIL POLISH REMOVER

Q. *We are keenly interested in manufacturing a non-smear, non-acetone nail polish remover, and would appreciate whatever suggestions you may make as to a good working formula. I.L., Illinois.*

A. One of the best non-acetone nail polish removers is methyl ethyl ketone as is, or containing about 10 per cent of water. Any more than this amount of water will come out of solution. You might want to add about 2 per cent of glycerin or polyglycol as emollients.

1201: EMULSIFICATION LITERATURE

Q. *My problem involves the emulsification of an edible vegetable oil. Could you please suggest the name of a technical book that covers the subject of emulsification rather thoroughly? Also, I would like to know if any booklets or brochures on emulsification are available. I recall seeing such a booklet put out by a chemical manufacturer. D.R.J., Ohio.*

A. The following books should help you on the subject of emulsification: "Principles of Emulsion Technology," by Paul Becher, Reinhold Publishing Corp.; "The Theory of Emulsions," by Clayton, Blakiston Publishing Co.; "Introduction to Emulsions," by G. Sutheim, Chemical Publishing Co. These books are all available from the book department of THE AMERICAN PERFUMER. The following companies have booklets on this subject: Atlas Powder Co., Emulsol Corp., and Glyco Products Co.

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TECHNOLOGY OF

Modern OXIDATION HAIR DYES

PART I

GUS S. KASS*

IN RECENT years the American cosmetic industry has been witness to changing tastes and fashions in cosmetics. Cosmetics in aerosol dispensers, liquid makeup, deodorants and anti-perspirants, and cold permanent waving have all caught the public fancy and made phenomenal growth. Overshadowed by these new products but by-passed by most cosmetic chemists, have been a group of cosmetics that have also made tremendous growth in public acceptance as well as in technology. Preparations to alter the color of human hair, though on the American scene for many years, have only recently become fully accepted by the public. Although exact figures are not available, the annual sale of such preparations are in the multi-million dollar bracket and climbing steadily. There is no longer a social stigma upon a woman who bleaches or dyes her hair, and in fact, altering the color of one's hair has not only become acceptable—it is now fashionable.

Preparations to dye the hair are among the oldest known cosmetics and their use can be traced back many hundreds of years. Today, people are more concerned about hair coloring than ever before and it has become popular and fashionable to do something about it. Preparations to alter the color of hair have become greatly simplified in their use, the desired results more certain, and the hazards almost eliminated. Many women who alter the color of their hair by either bleaching, tinting, or dyeing have little if any grey hair. The cosmetic chemist and manufacturer who wish to engage in the development and manufacture of hair coloring products must first have an understanding of the needs of the consumer. He not only must know how the product is to be used but also why the product is to be used.

Why Women Color Their Hair

Although many men tint or dye their hair, it is the women who are the principal users and it is their needs that we are primarily concerned with. Why does a woman alter her hair color? There are a number of reasons:

1. To hide or cover grey hair to match her natural hair coloring.
2. To blend or even out faded or streaked hair.
3. To highlight or brighten dull and drab colored hair.
4. To change her hair shade because of fashion trends or to give her morale a boost.

The color of hair can be altered or changed in one of two basic ways. The natural pigment of the hair can be lightened or bleached, or artificial coloring can be applied to the hair. In recent years products have appeared on the market that will do both simultaneously. Hair coloring preparations comprise a large and varied group of cosmetic products and include among them bleach oils, bleach powders and boosters, color rinses, hair dyes, shampoo tints, color shampoos, dye removers, toners and miscellaneous specialty products. These prod-

*Technical Director, Lanolin Plus, Inc.

ucts are designed to meet specific hair coloring problems and vary greatly in their effectiveness, composition and method of application. Products designed for professional beauty shop use do not always meet the requirements for a product to be sold directly to the consumer.

If a practical approach to the problem of formulating and manufacturing hair coloring preparations is to be taken, we must first have an understanding of the physical and chemical behavior, and properties of hair that have a direct bearing on the effective use of hair coloring cosmetics. Before we can work with color we must be able to classify and describe the natural hair shades we are attempting to duplicate.

Color Classification

For purposes of color classification and color matching, the natural hair shades are divided into two broad color groups—the warm shades and the drab shades. The drab shades, characterized by the absence of red tones, range from deep black through neutral brown, ash brown and ash blonde. The warm shades are divided into two sub-groups, the reds and golds. The reds consist of reddish brown, chestnut brown, auburn, and titian or reddish blonde. The gold shades include golden brown and golden blonde. Most of these shades are further broken down into dark, medium or light shades. To further complicate matters, there are in addition to the natural hair shades, fashionable hair shades such as platinum blonde, silver blonde, smoke blondes, steel grey and others. For practical purposes, the natural hair colors are generally divided into eighteen basic shades as shown in Table 1.

Series of Drabs	*Series of Reds and Golds*
Deep Black	Dark warm brown
Black	Brown
Darkest brown	Light brown
Dark brown	Light warm brown
Light ash brown	Dark auburn
Dark ash blonde	Light auburn
Ash blonde	Golden brown
Blonde	Reddish blonde
Light blonde	Golden blonde

Table 1—The natural hair colors.

These may be considered the basic colors. There are intermediate shades which may be matched by blending two or more hair coloring shades.

Hair colorings are generally divided into two broad type groups,—progressive colors and instant colors. Progressive colors are those in which the desired shade is produced on the hair after several applications of a hair coloring preparation or after repeated use. The metallic dyes fall into this group. And as the name implies, instant dyes or colors, tint the hair to the desired shade and depth at the time of application.

In hair color terminology, one often uses the terms "highlights" or "highlighting color." A strand of hair when viewed by direct reflected light has a definite fixed shade or hue, but if that same strand of hair is held between the viewer and the light source, the highlights are visible. The sun shining through a woman's hair, which the photographers call back-lighting, produces this effect. Hair may show gold or reddish highlights when viewed this way or may be completely drab or lacking highlights. This characteristic of hair color is most important and must be given careful consideration when formulating hair colorings. Artificially colored hair must not show undesirable highlights such as green, blue, or purple unless such a color effect is deliberately sought after. This problem occurs quite frequently in the formulation of oxidation dyes.

The research worker in the field of hair colorings must have a thorough knowledge of hair—its physical and chemical properties under many and varied conditions. The tremendous growth in recent years of hair care preparations has greatly increased the problems in hair coloring. Many hair preparations such as hair lacquers, shampoos, hair dressings, conditioners, and cream rinses, may have an undesirable effect upon the subsequent application of a hair coloring preparation. Hair treatments such as permanent waving and bleaching can often result in undesirable color variations if the coloring is applied too soon after the hair treatment unless care is exercised in the selection and application of the hair coloring product.

Once a woman decides to alter her hair color in any manner she is almost always committed to a repeat color treatment at two to three week intervals unless she wants her hair to return to its natural color. In spite of the chemical treatments to which hair is so often subjected, it continues to grow, and since the new growth is in its natural shade it must receive a color treatment so that the entire head of hair is uniform in color. Here again, new problems arise. It is almost impossible to treat the new growth with the hair coloring product without getting it on hair that has already been color treated. This effect is often referred to as overlapping and it is apparent as a band or layer of hair near the scalp that differs slightly in color from both the previously colored hair and the "retouch" or treated new growth. This is one example of some of the many problems that may arise. Again, hair that has been dyed, bleached or received a permanent does not always have the same affinity for colorings through its entire length. The "root end" or hair near the scalp may offer greater resistance to the dye or tint than the ends or tips of the hair which frequently have a tendency to "grab" the color and get too dark.

It must be pointed out that although the technique of applying the hair-coloring is of tremendous importance in achieving uniform results, and can often spell success or failure, many problems can be minimized by proper formulation of the product. That is why a thorough understanding of hair behavior is of such critical importance.

Another term frequently used by workers in the hair coloring field is "coverage." This is simply a term describing the degree to which grey or white hair is dyed in comparison to color designation of the shade used. If, for example, a light ash brown shade is used on grey hair and the resulting color is light ash brown, then 100% coverage is achieved. If a lighter shade results, the product is said to have given poor coverage on that particular head of hair and is often described as 80%, 50%, or 30% coverage depending on how light the shade turned out. An instant hair coloring preparation need not give 100% coverage to be a satisfactory product. In fact many modern oxidation type dyes give only from 60 to 80% coverage so that the color transformation is not quite so drastic. When used on hair with grey hair sprinkled throughout, the change is less obvious, and more natural looking.

OXIDATION DYES

THE most effective hair coloring preparations on the market today are the oxidation types based upon p-phenylene diamine and related intermediates. Almost all professional hair dyeing or tinting is now done with dyes of this type and they are rapidly replacing other types for home use. These dyes, which will be referred

to as oxidation dyes, have achieved this popularity because they are the only hair colorings on the market that will color the hair quickly in all the natural hair shades and that are lasting and natural in appearance. They are called oxidation dyes because they contain, as the principal ingredients, aromatic diamines, aminophenols, or derivatives of these compounds which form dyes upon oxidation. The oxidation must take place on the hair to produce the desired results.

In 1883 para-phenylene diamine was introduced by Monnet & Co. of Paris as a hair dye. It was patented for such use in Germany in 1888, but it was soon discovered that this compound frequently caused severe dermatitis and in 1906 the German Federal Council withdrew "para" from unrestricted use and placed it on its poisons list. Eventually this compound as well as para-toluylene diamine was banned in many European countries and still is.

In 1911 Sabourand suggested the patch test or predisposition test as a precautionary measure and this practice has since been universally adopted. Oxidation dyes are permitted in this country, but Federal law requires that the labels, directions, and carton carry the following caution statement:

> "This product contains ingredients which may cause skin irritation on certain individuals and a preliminary test according to accompanying direction should first be made. This product must not be used for dyeing the eyebrows or eyelashes; to do so may cause blindness."

It is this author's opinion, concurred in by others, that the use of present day oxidation dyes is not attended by any undue hazard. Cases of allergic dermatitis are rare occurrences especially when the directions for use are carefully followed and a patch test is given as required by law.

The directions for the patch test are as follows: With soap and water, wash an area of the skin inside the bend of the elbow or behind the ear and extending partly into the hairline. Dry without rubbing. Prepare the test mixture by mixing several drops of the dye solution with the proper proportionate amount of developer. Then with a cotton tipped applicator apply the mixture to an area of the test site no smaller than a twenty five cent piece. Permit this test area to dry and leave uncovered and undisturbed for 24 hours. If at the end of this time there is no burning, itching, swelling, irritation, eruption or other abnormal reaction, the dye may be safely used on the hair.

The low incidence of allergic dermatitis and skin sensitivity resulting from the use of modern oxidation or para dyes has been the subject of several recent papers. Schwartz and Barban[1] report the results of patch tests on 1234 subjects without a reaction. A popular oxidation dye in 14 shades was used in these tests. In a report in 1953 on the status of para-phenylene diamine hair dyes, Schwartz[2] discusses the diminished incidence of hair dye dermatitis despite the increased use of oxidation dyes. When we examine the history and development of oxidation dyes and then study the chemistry, composition, and manufacture of present day oxidation dyes, the reasons for this safety record becomes more apparent.

The early oxidation dyes were usually alcoholic or water-alcoholic solutions of para-phenylene diamine and other aromatic amines and amino phenols. The dye solution was applied to the hair and the color developed over a period of hours or days by atmospheric oxidation. The incidence of dermatitis was very high probably due to prolonged contact of the skin with unoxidized or partially oxidized intermediate. It was later discovered that hydrogen peroxide solution would reduce the development time to minutes instead of hours and the present day type of instant oxidation colors resulted.

There are several types of oxidation colors on the market today. They differ only in the degree of coverage, technique of application, and color effects produced but they are similar in composition. The "Shampoo Tint" is a solution of dye intermediate in an aqueous or hydro-alcoholic soap base. It is mixed just before use with equal parts of twenty volume (6%) hydrogen peroxide and applied to the hair by means of a swab, brush, or other applicator. Color development usually requires from 15 to 40 minutes. They are called "Shampoo Tints" because the soap content will often permit them to be worked up into a lather with water after development is complete, and then rinsed out of the hair. Products that may be labeled just "Hair Dye" usually have a soap base too. In recent years variations of the Shampoo Tint have appeared on the market under various names such as Color Shampoo, Color Cream, etc. The newer preparations are much easier to apply than the older Shampoo Tints which required a highly skilled professional operator to get good results. Do not get the impression that anyone can apply these newer colors and always get excellent results. Skilled application is almost as important as a good product. The newer products also leave the hair with a more natural appearance. Naturally colored hair is rarely uniform in color throughout and careful examination of even a child's hair will disclose slight to pronounced gradations of color. When these natural gradations of color are eliminated by tinting the hair with a product that dyes the hair intensely, the overall effect is not quite natural. The newer colorings do not color the hair so intensely and as a result these natural gradations of color are not always completely masked. The problem of overlapping on retouch application is also minimized as well as stain removal from the scalp. The Shampoo Tint type frequently stains the skin badly and it requires expert application to keep the dye off of the scalp and adjacent skin areas. By reducing the affinity of the color for the hair in the newer preparations, the affinity of the dye for the skin is also reduced to the point where any dye on the skin or scalp is easily removed in the course of shampooing and rinsing. This desirable property can be achieved by adjustment of the concentration of dye intermediate and by careful formulation of the dye vehicle.

Complexity of Oxidation Hair Colorings

Oxidation hair colorings are very often complex preparations which may contain twelve to fifteen or more ingredients. The cosmetic chemist investigating this field for the first time is faced with what appears to be a gigantic jig-saw puzzle, but the solution is not such a difficult one when a logical and systematic approach to the problem is taken. If the hair dye is first broken down into the following three basic parts, the problem immediately becomes simplified.

1. The vehicle or solvent base for the dye intermediates.
2. The dye forming intermediates.
3. Color modifiers, stabilizers, and other additives.

By examining the composition and function of each of these three components separately, the pieces of the puzzle fall quickly into place and the technology of oxidation dyes becomes more readily understood. It also becomes apparent that by variations in each of the basic parts, tailor made products to meet almost any requirement become possible. Each component is of top importance and the composition and behavior of each is directly affected by the others. In developing an oxidation hair coloring it is first necessary to determine whether

the product is to be for professional use or for home use. The following factors must then be decided upon.

1. Physical appearance such as liquid, paste, or cream.
2. The method of application.
3. The degree of coverage or color intensity.
4. If the product is to dye hair only or to dye AND bleach.
5. The number of colors in the series and the shades desired.

The Dye Base

The color vehicle or dye base, as it will be referred to, is usually an aqueous solution of soap or anionic surface active agent of the type used in shampoos. In the formulation of an oxidation hair coloring, the composition of the dye base is of tremendous importance. It greatly influences the rate of color development, amount of color deposition on the hair, the amount of intermediates needed, shade color and highlights, and ease of stain removal from the skin. It may also contain organic solvents such as alcohols and glycols which assist in solubilizing the dye intermediates. Ethanol and isopropanol usually increase color absorption by the hair, while glycols such as ethylene glycol, sorbitol, and glycerine retard absorption. Thickening agents of the type used in shampoo formulations are also useful where increased viscosity is desirable. It must be remembered that hair dyes of this type are usually diluted at least 100% with hydrogen peroxide with an accompanying drop in viscosity. It is desirable to have the dye-peroxide mixture viscous enough so that it will adhere to the hair without dripping on the face, neck or scalp. The viscosity of the dye composition is not as important as the viscosity of the dye-peroxide mixture. The dye composition should be fluid enough to facilitate manufacture, bottling, and removal from the bottle, and it is possible to formulate liquid dye compositions that increase in viscosity when mixed with the developer. Superfatting agents and hair conditioning agents may also be incorporated in the dye base where they often exert a pronounced effect on the resulting color. Viscosity limits can only be established on the finished product. Each of the ingredients that go into a hair dye can affect the final viscosity which may vary from shade to shade. Superfatting and conditioning agents should be of the type that are stable to alkaline hydrolysis.

Shampoo tints generally have a soap base while some of the newer types that are shampooed into the hair are based on anionic or non-ionic surface active agents. Suitable soaps are the ammonium and alkanolamine soaps of oleic, palmitic, lauric and cocoanut fatty acids. The salts of sulphated lauryl alcohol are useful in the foaming shampoo types of hair dye. The use of auxiliary solvents will be governed in part by the solubility of the dye intermediates being used. For example, intermediates of the diphenylamine type such as para-aminodiphenyl amine and 4,4'-diaminodiphenyl amine are not readily soluble in water or in aqueous soap solutions. A water miscible organic solvent or other solubilizer is often useful in such cases.

One approach to the problem of formulating and developing an oxidation hair coloring is to first determine the type of product wanted and then prepare several dye bases of tentative composition. A product that will color the hair intensely and is to be applied to the hair with an applicator can have a soap base. If it is to be applied as a shampoo then a base similar to a detergent shampoo might be a start. In any case, several of the intermediates should be individually dissolved in the base, adjusted to the desired pH, and dyeings on hair made. Actually this is over simplified, but such dyeings have considerably more meaning to the experienced observer than to one just delving into this field. One shade is built up slowly by adding ingredients until the desired shade results. If this is done with several variations of the dye base, laboratory tests will determine which of the bases or modifications is best suited for the product. In view of the fact that the dye base has a pronounced effect on the rate of color development as well as color shade and intensity on the hair, any modification of the dye base necessitates a re-evaluation of each shade. When one considers that at least twelve different shades make up the average oxidation dye, it becomes apparent that a great deal of development and testing is required before even a tentative set of colors can be made up.

Hair dyes have been made in the form of liquids, pastes, powders, sticks, bars and creams, and the diversified nature of these compositions is revealed in the patent literature[3-18]. The following are some representative dye base compositions. It should be pointed out that these compositions are not necessarily working formulae but are shown to illustrate the type of dye base that can be used in liquid oxidation dyes.

HAIR DYE BASE	
Fatty acid alkanolamide	10-25%
Propylene glycol	3-10%
Water	17-65%

SHAMPOO TINT BASE	
Oleic or cocoanut fatty acid	15-25%
Propylene glycol	5-15%
Ammonium hydroxide—to neutralize fatty acid	
Water to make	100%

HAIR DYE BASE	
Oleic acid	15-30%
Powered castile soap	2- 6%
Ammonium hydroxide—to neutralize fatty acid	
Water to make	100%

COLOR SHAMPOO BASE	
Ammonium lauryl alcohol sulphate	25-35%
Fatty acid alkanolamide	2- 6%
Water to make	100%

DYE-BLEACH BASE	
Triethanolamine lauryl alcohol sulphate	20-40%
Fatty acid alkanolamide (high amide type)	5-10%
Water soluble lanolin derivative	1- 3%
Water to make	100%

To these bases may be added superfatting agents, hair conditioners, thickeners, glycols, alcohols, and other materials to make the product fill particular requirements. But bear in mind that once the dye base has been decided upon, any change in the base will require a thorough study of its effect on the completed dye.

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(Part I of three parts)

Broader Uses for AEROSOLS

Many drug and cosmetic products involving the use of materials taken internally or applied directly to the person may now be packed in pressurized containers . . . . Polysol concept

As limitless as the use of aerosols appears to be, scientists in the industry from the very beginning have been concerned with technical limitations as to just how far the industry could go.

The reason is that there are still hundreds of products which up to now could not be pressurized because the propellents commonly used in aerosols either were incompatible or otherwise unacceptable for use with many chemical materials and the existing types of containers, valves and processing equipment.

For example, certain types of water based materials used with fluorinated hydrocarbons in a metal container cause hydrolysis of the hydrocarbon, resulting in de-tinning of the container, and in extreme cases, actual perforation of the container. In other cases, fluorinated hydrocarbons or so-called refrigerant gases cannot be combined with other chemicals because they can cause deterioration or even destruction of these chemicals.

Until now the commonly used propellents in aerosol products have been what are called refrigerant gases which are chemically defined as fluorinated hydrocarbons. They will continue to represent a major part of the propellents used in the aerosol industry.

However, Connecticut Chemical Research Corp. has for a long time been challenged by its inability to pressure pack many drug and cosmetic items and other products that particularly involved the use of materials taken internally or applied directly to the person. While fluorinated hydrocarbons are considered safe for household use the federal government requires that products ingested or inhaled must pass the standards of the Food and Drug Administration. With justifiable caution, the Administration, working with manufacturers of fluorinated hydrocarbon propellents, is evaluating the toxicological hazards of inhalation and ingestion of these materials. It may be years before acceptable standards are established.

For that reason, Connecticut Chemical Research Corp. delved into the use of propellents which do not have any implied toxicological hazards, and which are compatible with chemical mixtures to be used in products that it has not been possible to pressure pack safely in the past. Some of the propellents investigated include: helium, argon, krypton, carbon dioxide, nitrous oxide, butane, propane and numerous others.

Not all of these gases filled the bill, but we have been able to come up with certain of them that do the job, either singly or in combination, and in certain products in combination with refrigerant gases.

The total concept of polysols opens up a great vista in terms of products, as well as in terms of the economic impact on the industry, and in terms of more effective products for the consumer.

By polysols we mean not only the development and application of the new propellents, in contrast to the refrigerant-type propellents used in aerosols, but also the

whole packaging concept involving formulations, containers, valves, and the new equipment that it was necessary to develop to produce these polysols economically. Patents for polysols have been applied for. Technical advice and assistance in the development of the polysol application to any type of product, be it liquid, cream, lotion, or powder, is available.

Just as the name implies, refrigerant gases used as propellents have a cold or chilling effect when used on the person. Since most of the propellents we use are not refrigerant gases, polysols can, in various combinations, be used without this chilling effect.—*Milton Schwarz, Director of Sales and Product Development, Connecticut Chemical Research Corp.*

NEW OPPORTUNITIES FOR PRESSURIZED PACKAGING

A LIST of cosmetic and drug items that could not be packaged in pressurized containers before but which may now be packed by means of the polysol concept has been given by A. O. Samuels, president of the Connecticut Chemical Research Corp. Included are:

1. Mouth Washes. The market at present for mouth washes is about $33,000,000 annually—and only 15% of the people use them.

2. Depilatories. In ordinary depilatories the chemical that actively removes the hair is thioglycolate. If used in cream form fillers such as clays are used. They are basically inert and there is rarely enough active material to do an effective hair removing job. Moreover in being packaged in ordinary containers air is trapped which may start to decompose the thioglycolate, thus reducing its effectiveness and producing an objectionable odor. In a polysol no air can get at it as the air is purged from the container. Because only active ingredients are used it is more effective in removing hair. Facial as well as body depilatories may be pressure packed.

3. Body Rubbing Alcohol. This may be sprayed on the back and then smoothed on, instead of pouring on the dripping liquid.

4. Eye Wash. Rather than pouring an eye wash into a cup and then throwing back the head to apply it, it is now possible to spray the soothing liquid into the eyes.

5. Underarm Anti-perspirants. A problem in the past has been to use a chemical that is incompatible with ordinary refrigerant gases. It is now possible with polysols.

6. Home Permanent Waving Lotions. When applied by means of a polysol any objectionable odor due to possible decomposition of thioglycolate is eliminated.

7. Water Based Products. Disinfectants for personal and household use are now made possible. Others are germicides, antibiotic sprays, baby lotions, hay fever sprays, respiratory relief sprays and feminine hygiene applications.

You can buy it in an aerosol—

Foot powder: Fling, an anti-perspirant powder especially for the feet, a product of the Kendall Co.

Medicinal dispenser: A pocket-size inhaler designed for asthma sufferers, from Riker Laboratories, Inc., propellent by du Pont.

Girdle spray: A deodorant talcum powder perfumed with honeysuckle, by Eppi Products Corp.

Stencil ink: In eight colors, including aluminum, by Reynolds Ink, Inc.

Foghorn: For the amateur yachtsman, 300 two-second warning blasts from one unit, product of Falcon Alarm Co.

Dog deodorant: Odor Off, for canine daintiness, by Whitmire Research Laboratories.

Children's hair spray: Satin Set pin-curl hair spray for the child's hair, from Revlon, Inc.

"I want something repulsive; I don't want to go out with him again."

The DEVELOPMENT of AROMATICS

Historical facts on the development of aromatic science . . . Report on new developments of materials to improve taste of food and supplement natural floral extractions . . . Advice on the selection of aromatics

DR. ALEXANDER KATZ*

CIVILIZATION began when human beings organized into living communities. Their interests were to improve the existing life, which gave no luxuries in living conditions and food. Existence was largely dependent upon vegetation and animals, and they strove to improve the main source of this existence—particularly trying to improve the taste of food. Even after many centuries of evolution, without help of science, they depended mainly on nature. Later, when navigators began to travel to various parts of the world, products such as sugar and spices were introduced to many remote parts of the globe. These conditions lasted practically until modern times, when transportation and advances in science made it possible to cultivate and produce many products locally—to replace products formerly brought from distant lands.

Scientific Production of Aromatics

With the advance of science in recent years, it has been possible to make synthetic fabrics, vitamins, rubber, leather, etc. However, much before these discoveries, chemists found possibilities in developing aromatics to improve taste of food and supplement natural floral extractions deriving them from coal tar bases, such as toluene, benzene, etc.

Modern achievements provide these now essential aromatics from by-products of the petroleum industry, vegetable and animal fats, oats, etc. Their sources are almost limitless.

Following the alchemists, chemistry went through a process of evolution until the middle of the 19th century when revolutionary methods of developing preservatives and components of food produced these fine results. What is food without taste and what is perfume without pleasant odor? Such incentives actually were responsible for the great chemical research in aromatics for the improvement of taste and aroma.

Since the discovery of vanillin (aromatic principle of vanilla beans) by Tiemann in Holzmuenden in 1874, the price of vanillin has dropped from $800.00 per pound to $3.00 per pound. Tiemann synthesized vanillin from eugenol which he derived from oil of cloves. The modern method of making vanillin has been revolutionized to the point where it is derived from lignin, a sulfide liquor by-product of paper making. The vanillin made from lignin is identically the same as vanillin isolated from vanilla beans. Many other syntheses have been achieved in the line of organic chemistry to help develop an independent source of supply for the production of fine aromatics. Flavors and perfumes made from synthesized aromatics in many cases are finer than those made from natural products.

The beginning was difficult. Synthetic products were not very well accepted by the consumer. However, we came to the realization that synthetic products are important as supplements to natural products and besides are more stable and uniform due to scientifically con-

*President, F. Ritter & Co. Reprinted from November 1955 SCALACS.

trolled production. It is possible to control taste and scent in both strength and quality. Therefore acceptance of synthetic perfumes and flavors was inevitable.

Physiological Effects of Odors

At Edinburgh University, Department of Psychology, J. Drever conducted a study of psychological effects of odors. It was found that the molecular wave length (determined by absorption bands in the spectrum) quantity of molecules, etc. differ with different human beings. Additional factors were found as follows: racial instincts, state of health, and many other physiological qualities of people to whom this test was applied, caused different reactions. Many years ago, J. Kenneth of England undertook the study of psycholigical and physical effects of odors under the title of "Some Experiments on Mental Reactions to Odor." Kenneth reaffirmed many facts found by other investigators. He substantiated the claim that different races like different odors and have different tastes.

Pioneers in chemical investigation of odoriferous products, essential oil components, etc. like Tiemann, Barbier, Wallach, Semler, Hesse, and many others are responsible for the success of modern development of synthetic aromatic chemicals. The research started by those pioneers is still going on. Although a great many products are made commercially now there are countless future possibilities for new aromatics. Not too long ago some of the aldehydes, esters, ethers and ketones were regarded as rare aromatics. Today they are available in abundant quantities at reasonable prices.

Although the newly discovered aromatics employed in the flavoring and perfume industries are gaining momentum, they are not particularly publicized as they are considered more or less trade secrets. It is my desire to acquaint food and perfume chemists with recent developments in the line of aromatics which produce the new flavor and odor effects and improved taste and aroma in the finished products.

There are some organic preparations used in flavoring and perfume industries which are not sold under their true nomenclature, thereby depriving the chemist of information necessary to practically formulate his product. It is important to know the true chemical composition of a product from the standpoint of compatibility and, in food products, to be able to meet the labeling requirements.

Information on Aromatics Misleading

Quite often information given on such chemicals is misleading. Most of the fine aromatics are sold under assumed trade names and, although some chemical and physical data are given, the true chemical identity is not revealed. It has been the aim of some organic chemists to search for new finer aromatics and market them under their proper nomenclature, giving information as to the chemical and physical properties, as well as utilization of such aromatics.

So-called aldehydes such as C-14, C-16, C-18, etc. do not actually represent true products made from their corresponding alcohols or acids. These are misnomers for such chemicals as gamma undeca lactone, methyl phenyl glycidate of ethyl and gamma nonyl lactone. The reason it is mentioned here is that lactones and glycidates will react much more favorably with some other components in flavoring products than aldehydes. If chemists are to accept the lactones and glycidates as aldehydes, they will be more cautious not to use certain materials in order to avoid the possibility of polymerization, and, in this way, perhaps, deprive the compound of an essential aromatic which might be fully compatible with lactones or glycidates.

I stress the importance for the flavoring and perfume chemist to select pure chemical products under true names, having complete data on the physical and chemical properties of the aromatics in question.

It is well known in perfumery that the basic floral odors such as rose, jasmine and neroli have been synthesized. It was found that rose consists of geraniol, citronellol, and its esters, rhodinol (1-citronellol) and phenyl ethyl alcohol. A pretty good rose composition could be made with these aromatics yet many other aromatics are employed in the production of rose to give scent variations. For example, if red rose character is desired, beta or methyl ionone should be added. If tea rose effect is desired, guaiol alcohol and guaiyl acetate should be employed together with other materials. It is also well known basically that jasmine consists of benzyl acetate, para methyl benzyl acetate, indole, linalool, linalyl acetate. Yet, to get good jasmine effect, amyl cinnamic aldehyde or amyl cinnamic aldehyde dimethyl acetal is utilized together with the other aromatics. Natural jasmine, due to the fact that it contains indole, is not suitable for use in cosmetics. Yet in synthetic jasmine, indole can be eliminated and substituted by aromatics, such as neoindol, which do not cause discoloration. The same applies to neroli which contains linalool, linalyl acetate, indole and methyl anthranilate. Both the latter cause discoloration of cosmetics. Synthetically, neroli could be produced from esters made from linalool; and by substituting neoindol for indole and ethyl anthranilate for methyl anthranilate, a satisfactory product could be made without fear of discoloration.

Synthesis of Aromatics in Fruits

Since early synthesis it has been the goal of a great many organic chemists to synthesize not only aromatics found in essential oils but also those found in fruits, vegetables, etc. One of these aromatics is methyl beta methyl thiol propionate, commonly known as pineapple mercaptan. This aromatic was successfully tried in 0.05% concentration, together with other ingredients used in pineapple flavoring, to the entire satisfaction of flavoring chemists.

Among newly developed aromatics it is important to mentioned diallyl sulfide and allyl mercaptan. Both products possess the aroma and taste of natural garlic and onion oils. These products are manufactured by F. Ritter & Co. in their pure state. Utilization in food products is available.

Among poly-functional ketones, which are utilized by many manufacturers to produce such effects as maple, butterscotch, and in some cases strawberry, raspberry, etc., one that merits particular attention is methyl cyclopentenolone. This very interesting aromatic has a distinct taste of maple and, in combination with natural butter flavorings, products a delicious butterscotch flavor. Methyl cyclopentenolone, having a ketone and alcohol group, can be esterified with various acids. The acetic, butyric and propionic acid esters have been produced. In this case the OH in the ring was substituted by corresponding acid and very good results have been obtained. For example, methyl cyclopentenolone acetate, butyrate, propionate and valerate can all be utilized in producing desired results in wal-

(Continued on page 35)

DISPENSING POWDERS from AEROSOLS

VICTOR DiGIACOMO*

Importance of design of valve and type of seating . . . Necessary characteristics for suspending material for powder products

DURING the last decade, the aerosol container has grown from a rather obscure package used primarily for insecticides to a major medium with application in many industries. In the toilet goods industry, the aerosol is now competing with, and is steadily gaining on, the older forms of packaging for the major portion of the toiletries on the market. Up to now, the pressure containers were used mainly for liquid products, leaving the powdered materials for the conventional packages —the shaker type, the powder box, and also the rather new polyethylene container. Today, however, even the powdered products are finding their way into the "push-button" container.

The first material to be packaged in aerosol form which might be placed in the "powder" or "solid" category was the pressure-packed paint spray. This product contained a heavy concentration of pigments together with solvents, drying oils and other carriers, all necessary to give proper coverage during aerosol application. The carriers also aided in the dispersion and suspension of the pigments, allowing them to be pressurized. In addition, a metal or glass ball was placed in the container to break up sedimentation which may have formed during shelf life or while standing.

There were various problems to overcome in the paint spray, some of which were found applicable in the preparation of powder toiletry, pet, botanical and pharmaceutical aerosols. Many solvents and carriers used in the paint spray were of a fast-drying nature, and if the pigments did not clog the orifice, the solvents and carriers could. It was absolutely necessary to use solids within a definite particle size to insure the proper seating of the valve in order to obtain complete valve cut off, and also to prevent clogging of the orifice.

A new powder aerosol recently introduced and now being successfully marketed is the fire bomb which contains sodium bicarbonate as the active ingredient. A basic method of dispersion is used in this product since it is only a one-shot container. The valve seat is punctured allowing the free flow of contents without shut off. There is no intricate mechanism to cause clogging and valve seating problems; the previously-mentioned metal or glass ball again being employed to break up sedimentation.

The aerosol container can offer certain advantages for powder application that the conventional packages do not. Dispensing powder under pressure gives the mix uniformity and prevents oxidation by not permitting contact with oxygen of those chemicals prone to oxidation. This also prevents shelf life decomposition of those materials. Products which are normally hydroscopic under normal packaging conditions resulting in decomposition, lose this characteristic when aerosol packaged. Finally, by using this packaging medium, so-called sterile cosmetics can be obtained.

Most powdered products, as normally formulated, are completely incompatible with the aerosol propellants now on the market. It is, therefore, necessary that the product be reformulated before it is packaged in a pressure container. It is necessary, in order to achieve success, to have a uniform material with a definite particle size and to eliminate from the formula certain gums and resinous ingredients which would not be soluble in the aerosol propellants and suspending solvents. The use of these ingredients would cause valve clogging and improper valve seating, resulting in container leakage and non-operative containers. Pressurized containers can be formulated utilizing 10 to 30% of solids depending on the type of product and the formulation. The propellant mixture may vary depending on the formulation and the end use. We find that 65% Freon® 11 and 35% Freon® 12, or the corresponding Genetrons,® are suitable for

* Givaudan-Delawanna Inc. Reprinted from Proceedings of the Scientific Section of the Toilet Goods Assn. No. 25, May, 1956.

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most formulations containing approximately 20% powder.

Valve Design

The design of the valve and the type of seating are important when powders are to be dispensed. Component parts of the valve must not be affected by the solvent used as the suspending medium. We have found that certain of the valves now available can be used for powder dispensing. We also know that those valve producers who do not have a product available which is suitable for this purpose are now conducting research in order to obtain such a valve. It is our opinion, however, that if a system or method of powder dispensing is recommended, it would facilitate the work of the valve manufacturer in adapting their valves to this method of powder dispensing.

Various methods and principles have been utilized in conducting experiments for the development of pressurized powdered products. Some of these methods made use of wetting agents to obtain dispersion while others worked on entirely different principles. We, however, suggest a method which we have found to be satisfactory for this type of application. Our particular system entails the use of a suspending medium which prevents agglomerative sedimentation through its ability to absorb the propellant, in addition to being able to suspend the powder ingredient. Based on this principle, we found, during our experimentation, that the suspending material utilized for powder products should have, if at all possible, the following characteristics:

1. It must be soluble in the various propellant mixes which may be used.
2. It must be either odorless or have a very low odor level.
3. It must be compatible with and soluble in essential oils, aromatic chemicals, isolates and other fragrant materials.
4. It must be greaseless in character.
5. It must be non-irritating.
6. Depending on end use of the finished product, the suspending agent should be usable in low concentrations.
7. It must be capable of suspending the powder formulation.
8. The formulation must be readily dispersed on shaking in the event of sedimentation without the use of a mechanical device.
9. It must not attack the valve or other component parts of the aerosol container.
10. It must preferably be soluble in hydrocarbons.

Our experiments have shown that a purified grade of isopropyl myristate has all the required characteristics and is the ideal suspending agent for powdered products. Due to its unique solublizing properties and cosolvency, it performs an additional important function by preventing the crystallization of certain bacteriological agents, perfume constituents and other ingredients which may crystallize on long standing resulting in valve difficulties. The use of a larger concentration of isopropyl myristate in products such as liquid make-up, plant sprays, etc. adds to the functional properties of the finished product. This higher concentration creates a material with a higher residual nature allowing the solid ingredients to adhere in a given area of application.

The propellant mix must also be selected carefully, considering not only the pressure required to make the container operative, but also the solvent effect the propellant might have on the suspending medium. Propellant mixes can be obtained allowing for their use in both metal and glass containers, and both the "cold filled" or "pressurized" methods of loading can be used for the manufacture of this type of package.

(Continued from page 32)

nut, pistachio, hazelnut flavorings, while the valerate and propionate can be used in apple and black current flavors.

Alpha irone, which is unbelievably good as one of the aromatics for use in raspberry and strawberry flavors, and in the production of violet perfume, should be studied fully to substitute such ketones as methyl, alpha and beta ionones which are used in the production of fruit flavorings. Alpha irone is an aromatic constituent of orris root and could be very well used together with alpha, beta and methyl ionones, also with methyl heptine and methyloctin carbonate. Alpha irone is very high in price. However, its odor refinement fully substitutes ten-fold orris concrete as it is much stronger and even cleaner in odor. Methyl heptine and methyloctin carbonate could be replaced with methyl nonylinate (neo-violet ester).

Methoxyphenyl pentenone (d-methyl anisal acetone) is a crystalline product. Minute quantities of this ketone can be used in maple and such flavors as currant, raspberry, strawberry and honey. It blends well with methyl cyclopentenolone or its esters in butterscotch and nut-like flavors. Both are products of good stability.

Last, but not the least interesting of these, is maltol, a crystalline material which can be utilized in the same products are methoxyphenyl pentenone. In making butterscotch, as mentioned before, with the addition of concentrated butter flavoring, which is being produced from pure butter, we can mention butter derivatives and butter esters. The latter have a definite creamery butter taste and aroma.

Establishment of Toxilogical Tolerance

When used for flavoring purposes, it is necessary on many of the new, as well as the old, aromatics to establish toxicological tolerance in food products. Various trade associations and institutions are constantly working on such data. It is generally accepted in the trade that when aromatics are used in suggested proportions they are not deleterious.

The allergic effect on some individuals using some aromatics might be noticed. Many products of extreme strength should be used cautiously in diluted form. For convenience of compounders, concentrated solutions of such products may be obtained from manufacturers.

Some investigations were conducted on dermal irritating properties of some aromatics and essential oils. Reprints of this report are available.

Furfural acetone and a line of related compounds were tested by the Stanford Medical School on Erlich Ascites Tumor as a possible aid in cancer cure research. Many of the compounds, produced for this purpose, have a pleasant taste and aroma of cinnamon, clove and general spice.

In conclusion, I would say that the selection of aromatics to be incorporated in the formulation is a matter of personal experience and taste. All one can attempt to do is to give general guidance for the utilization of newer aromatics, although in many cases there is specific information available for achieving desired results. It must be taken into consideration that following a given formula does not always give satisfactory results. The chemist working with aromatics must be well qualified. Olfactory and organoleptic training is essential and this can be attained only by experience. Knowing the facts about aromatics helps a great deal in the creating of new formulae. Continued research and development will necessitate ever-changing formulae for the improvement of flavors and perfumes.

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WORKING Partnership with Retailers

How Lentheric's sales decline was turned upward by a new policy of hand-in-glove relationship with its dealers

JACK MOHR*

LENTHERIC was sired some 68 years ago in France by Guillaume Lentheric. His prime customers were members of the French aristocracy. I mention this not for its effect as snob appeal, but as part of a valued and worthwhile heritage which the modern Lentheric group respect. In 1928, E. R. Squibb & Sons acquired the Lentheric interest on a worldwide basis, and Lentheric products were introduced to Mr. and Mrs. John Doe of the upper middle class of this country.

When I joined Lentheric in 1952, the company was in a sales decline, and was operating at a loss, and had been for a number of years. Tweed, our leading fragrance, was in a skid-off position. The program which we followed for the first two years was one of building a continuity program in advertising.

I would like to point out that an unalterable policy in our thinking is that all advertising campaigns in Lentheric start with trade journals. They serve a function which any knowing manufacturer should not disregard.

Pseudo 50-50 cooperative advertising, wherein the manufacturer pays 100 cents on a dollar, has been replaced by honest 50-50 cooperative advertising. We had a survey made of department store policies, and it disclosed that out of 54 departments involved, only one, the cosmetic and toiletries department, received full or part-time compensation for sales clerks on a continuity basis . . . either in the form of direct salary payments or P.M.'s. Very few received fully-paid cooperative advertising, but the cosmetic industry was consistently involved in fully-paid cooperative advertising.

Here's where we stand on our policy today. We will meet any merchant in America on an honest, half-way basis. We will give him 50c on a dollar with no limits imposed. If a store wants to spend ten dollars, we will spend ten; if it wants to spend ten thousand dollars, we will spend ten thousand; or anywhere in between.

We want to establish a firm working partnership that will give us a hand-in-glove relationship with our retailers. I might add, we have had complete agreement and complete cooperation from top-level management of department stores when these policies and our forthright position have been made known.

There is another item which merits attention. All of you are concerned at one level or another with distribution of samples. Department stores and various social groups write in, giving you an opportunity to make samples available for their fashion shows, card parties, etc. At one time, Lentheric distributed thousands of dollars worth of samples annually, at its net cost. These were presumed to be good-will messengers, helping to acquaint vast audiences with our fine products. We have taken that money and converted it into supplementary, national advertising and or profit. Today, we are distributing many more samples than ever before; however, we charge for them. We charge all stores on the same basis. We charge social groups an amount that will enable us to effect broader distribution of samples than ever before. We have had sample tie-ins with other time-honored, non-competitive companies. Our sample distribution will now run into the multi-millions of pieces annually, at no cost to Lentheric. We think this is a sensible way to sample.

*General Manager, Lentheric Div., Olin-Mathieson Chemical Corp. Excerpts from an address to Merchandising Executives Club.

Brand Buying

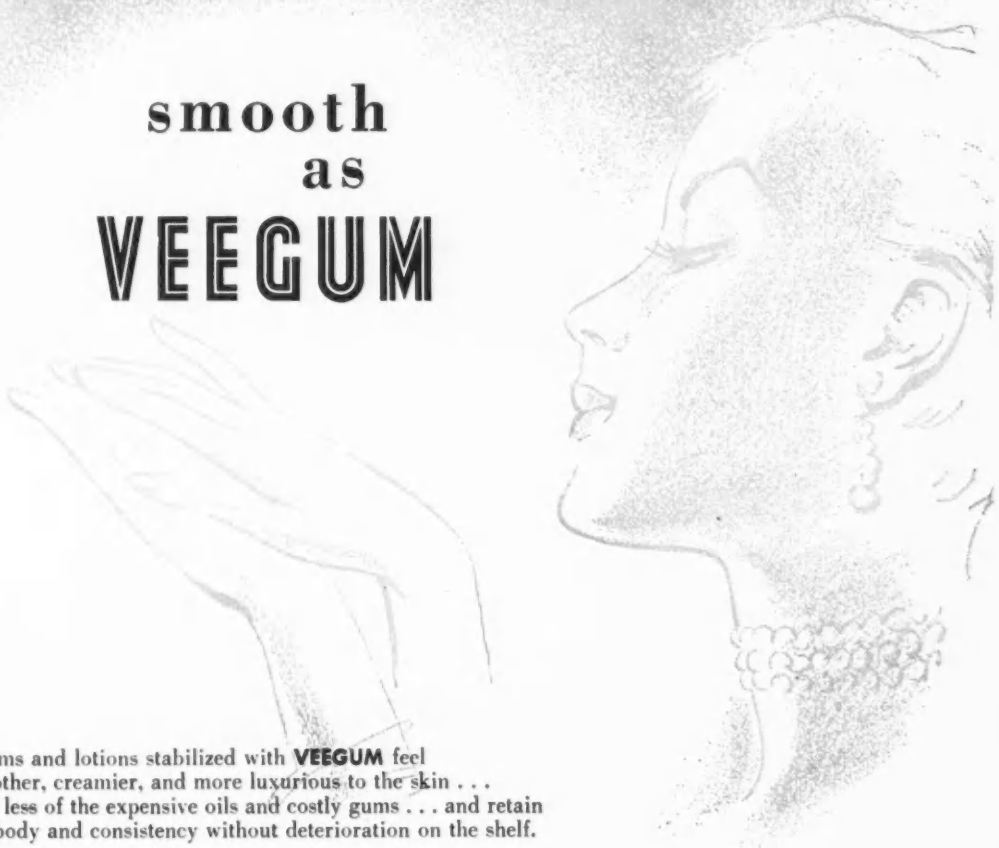
A SURPRISINGLY large percentage of customers immediately leave a store to go elsewhere when the brand they want isn't in stock, according to a recent independent survey.

The Mennen Co. currently is using this and other impressive points in a promotion drive to urge retail outlets to purchase and stock products at a rate that will keep up with consumer demand.

Thomas G. Vandever, Mennen general sales manager, revealed that, in many cases, consumer sales have greatly exceeded dealer purchasing, resulting in "out-of-stock" conditions. "Naturally, this is of vital concern to the company," he said.

Citing the research study, Vandever pointed out that 46 per cent of customers will walk out of a store if they can't get their favorite brand, with the comment, "I'll get it somewhere else." Thirty-two per cent will say, "never mind." In other words, 78 out of every 100 sales are lost when retailers say, "We're out of that brand."

smooth as VEEGUM



Creams and lotions stabilized with **VEEGUM** feel smoother, creamier, and more luxurious to the skin . . . need less of the expensive oils and costly gums . . . and retain full body and consistency without deterioration on the shelf.

VEEGUM is a high-purity, inorganic thickener, emulsifier and suspending agent with thixotropic characteristics that make it the ideal conditioner. *Veegum* prevents product thinning, bleeding, and tackiness, even at higher than normal temperatures because it has the unique property of thickening slightly with heat. *Veegum* concentrations (of less than 1%) permanently stabilize many types of emulsions containing oils, fats, and waxes, preventing the phase inversion often encountered in formulations of this type. *Veegum* in aqueous dispersions is compatible with alcohols, polyglycols and similar organic solvents, producing quick-spreading liquids and lotions with superior aging properties, smooth, soft texture, and more attractive appearance.

VEEGUM is a safe, high-quality Vanderbilt product, nontoxic, nonirritating, odorless and tasteless, with an opaque white appearance. It is a complex colloidal magnesium aluminum silicate, developed from natural sources and highly refined under careful laboratory control to assure the highest degree of purity and uniformity. Send today for complete information.

☐ Please send Technical Bulletin A53 ☐ sample of VEEGUM
Please send information on using VEEGUM for:
_____(state application)

NAME_____

POSITION_____

(Please attach to or write on your company letterhead)

R. T. VANDERBILT CO., SPECIALTIES DEP'T., 230 PARK AVE., NEW YORK 17, N. Y.

Packaging and Promotion

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3.

1. MAX FACTOR

Primitif is the new fragrance from Max Factor. The odor will be available in perfume, cologne, dusting powder, and gift ensembles. The perfume is packaged in a flask bottle wound and sealed in gold, encased in an oval gold and silver box. The line, being launched with a heavy promotion campaign, includes perfume at $18 an ounce; the cologne ranges from $1.75 to the 16 ounce $7.50 bottle. It's due for the market on November 1.

2. GERMAINE MONTEIL

Three cosmetics for the sun presented by Germaine Monteil are: Suntan Oil, for a dark tan; Liqui-Tan, for a gradual tan; and Tan-Pruf Lotion, for keeping complexions fair. All are offered as protective agents from the drying effects of the sun. Tan-Pruf is $1.25-3.50; Liqui-Tan $1.50-2.50; and Suntan Oil, $1.25-3.50.

3. YARDLEY

Yardley of London announces the expansion of the Red Roses fragrance line with the introduction of five new products to be available around August 15. They are dusting powder, talcum powder, bath-size soap, after bath freshener, and silk sachet. The authentic rose fragrance is reflected in the packaging on which the rose motif and color are dominant. Other products already available in the scent have been repackaged in the new design. To merchandise the line at point of sale, Yardley is offering a counter display featuring a simulated flower basket filled with the products.

4. ROGER & GALLET

Roger & Gallet has announced the importation of its Parisian perfumes for the first time since the war. They are bottled, sealed and packaged in France. Blue Carnation has a modern bottle with square-cut facets housed in a canopied gift box. The other fragrances are Fleurs d'Amour, Le Jade, and Santalia. The prices range from $2.75 to $15 for one ounce.

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5. HELENA RUBINSTEIN

A July offering from Helena Rubinstein is Sportswear Cream, which comes in a spill-proof, pink plastic squeeze bottle, at $1.50 plus tax. It is recommended by the manufacturer as a versatile product which can be used by those who want to tan and with the application of several layers by those who want to go to the beach but still be pale.

6. DUBARRY

A plastic squeeze bottle is the container for DuBarry's Tan Time. Described as a creamy lotion that is non-sticky, it contains silicones, allantoin, and humectants as part of its formula. The four ounce bottle sells for $1 plus tax.

7.

7. SHULTON

Shulton, Inc. introduced two new spray colognes in June, Escapade and Desert Flower. They are packaged in tapered plastic-dipped bottles. Escapade is bright pink, Desert Flower is white and gold; both are capped in gold. A 3½ ounce bottle of each retails for $2.50 plus tax.

8.

8. LENTHERIC

Lentheric is offering a summer special on its Iceberg Cologne. A combination package containing two bottles (regularly priced at $1.25 each) sells for $1. It comes in a open-faced striped green and white box.

9. HELENE PESSL

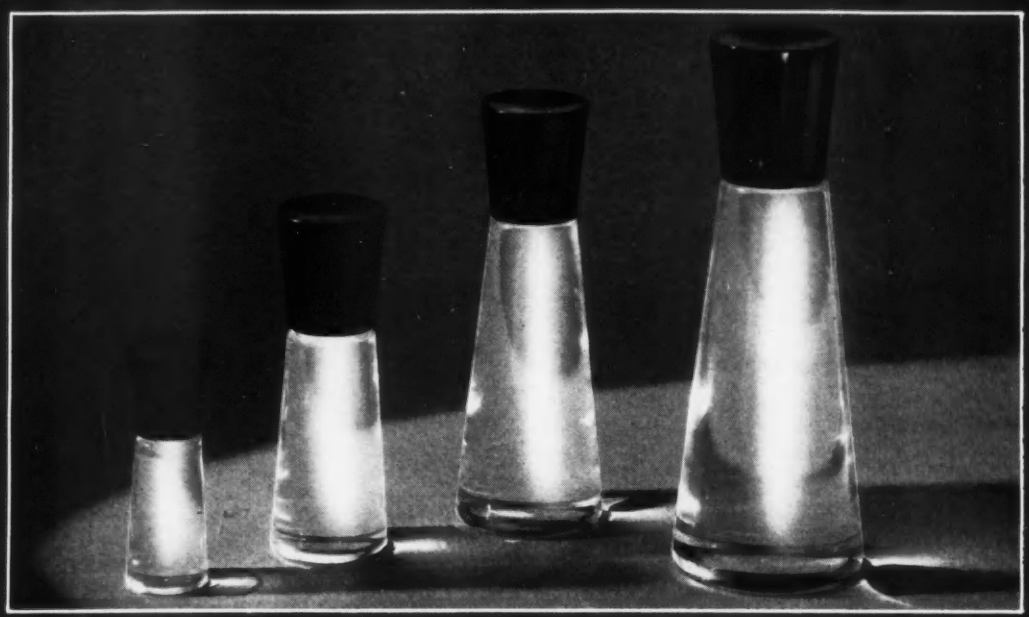
Helene Pessl, Inc. has announced the introduction of eleven new children's toiletry products, nine in the Little Lady toiletries, and two in the Little Lady Deb line. Among the former are a toilet water and "carry along" solid cologne stick in plastic swivel case. The two come in a set which sells for $1.75 plus tax.

9.

Presenting the NEW exquisite

with the new FUTURA CAP, shown in black—also comes in brilliant GOLD-COTE... bright touches of elegance for the purse or boudoir.

RICHFORD SPILLPROOF* PERFUME FLACONS



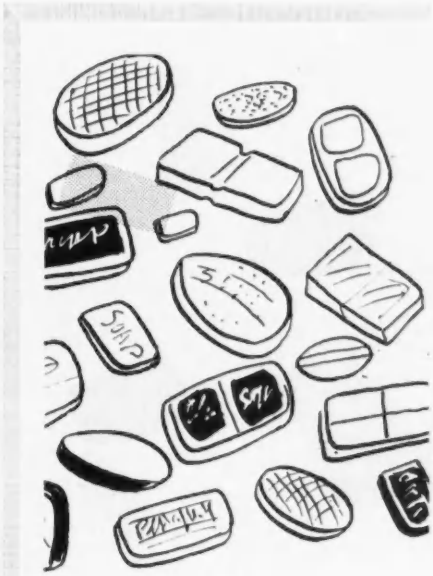
Observe the beautifully angled silhouettes of these EXQUISITE new perfume bottles, and note the perfectly blending FUTURA caps. When you consider that each is fitted with the fabulous SPILLPROOF feature, you can understand why we are so enthusiastic about them.

in 1 dram, ½ ounce, 1 ounce, and 2 ounce sizes

Write now for samples and prices.

Spillproof perfume bottles are the magic perfume containers that have launched millions of sales slips — their customer appeal and proved acceptance will help the sales of your product.

RICHFORD CORPORATION
404 4th AVE., NEW YORK 16, N. Y.



MANY USES FOR

DERMATOLOGICAL SOAPS

Applications, composition and manufacture of medicated soaps . . . Adequate use as complimentary treatment . . . French tradition and development

H. M. MASCRE*

A CLEAR distinction exists in France between "medicinal," "medical" and "medicated" soap. "Medicinal soap" is understood to be the compound specified as "savon medicinal" in the French Pharmacopeia,—i.e. "medicinal soap" is the base of dermatological soaps. This neutral compound includes no active ingredients whatsoever; it must be a sodium soap made of olive oil. It must be pure, and soluble in 60 degree alcohol with no tendency to coagulate or precipitate.

This "medicinal" base is also used to make "soap spirit" and medical specialties for internal use.

All soaps compounded for medical purposes are "medical" soaps. According to the French Pharmacopeia they may be based on the standardized "medicinal soap," or, on beef suet.

The addition of chemicals, such as tar, sulfur, formaldehyde, ichthyol, sublimate, etc., to the specified soap bases will produce "medicated" soaps which serve as an external skin treatment.

All soaps, including toilet soap, may either be based on animal fats saponified with soda, or, in the case of the amygdal in soaps, on the saponification of almond oil, hazelnut oil, and related products. A third standardized type is soft coconut soap made from coconut oil through saponification with potash; this is the base of the certified liquid soaps.

Prescribed Tests

The following tests are prescribed for French soaps:

a) Their water content must not exceed 25%,

b) The soap must not include any unsaponified fatty substances (this is tested by desiccation and subsequent exhaustion with carbon disulfide);

c) It must not include caustic alkalies, or alkaline carbonates (these are detected with a solution of mercuric chloride);

d) A limit is set to the product's content in free alkalies (the fatty acids are precipitated with barium chloride and, after filtration, the alkaline character of the filtrate is determined with sulfuric acid in the presence of phenolphthalein).

In a specimen of 5 grams of soap decoloration must be attained with three drops of "decinormal" solution, which corresponds to 15 milligrams of potash for 100 grams of soap. This is an important limit because the alkaline character of the soap is known to cause allergic reactions in some persons.

The soaps indicated above enter into many cosmetic and pharmaceutical preparations, in the capacity of wetting agents, emulsifiers, gel-forming agents, etc. They are used in lotions such as the "balm of Opodeldock" (composed of camphor, ammonia, oils of thyme and rosemary, alcohol) and added to excipients. Sometimes they are compressed in tablets and mixed with essential oils and other vegetable oils, as in soap-creosote tablets. Some preparations of this kind are destined for internal use as the soaps hold a specific place in laxative and cholagogue formulas.

The French Codex of Pharmaceutical Preparations also includes tablets of podophylline and belladonna compounded with medical

*Originally published in La Parfumerie Moderne, Vol. 45 No. 35. Condensed from the French by Margaret Neurath.

soap, and veterinary products designed along the same lines.

Special soaps, such as sodium oleate, are used in cholagogue and choleretic preparations. In some formulas the soap is combined with glycerin.

Yet, the principal uses for soap will always remain external applications based upon its antiseptic, emulsifying, and wetting powers.

Pure soap is a powerful microbe killer because of its alkaline character and its surface-active characteristics; it will even destroy toxic compounds left on the skin by bacteria and viruses. Further, it is apt to remove mechanically all lipoids such as the sebum; all impurities of endogene and exogene origin and the sources of skin infection. Nevertheless, the lather will only exert a pronounced antiseptic action if carefully used with hot water, for ample suds formation; and to this end it should be left on the skin for a longer period of time.

Dermatological Lathering

Dermatological soaping and lathering is a treatment for acne and seborrhea, destined to remove the lipids and combat infection.

Sometimes, however, intense soaping is prescribed to intensify the action of medical preparations which are subsequently applied. So soon as the external lipids are eliminated the next step is an extraction of the content of the hair follicles in which cutaneous absorption is at its peak; from this stage on a perfect contact of soap and skin and an effective penetration of active ingredients will result. This is of high importance in beauty soaps, hair tonics, hair dyes and shampoos.

To medical—as opposed to toilet—soaps, active principles are added, with a resulting combination of detergent-plus-chemical action. It is assumed that soap facilitates the penetration of medication into those sections of the skin which are apt to absorb and retain it. Therefore, most of the chemicals used in pomades, lotions and liniments have also been added to soaps. However, the chemical formula must be specially adapted in this case, with due consideration given to the soap's composition.

The following soaps are frequently employed: bichloride soaps, mercuric iodine soaps, products including oxycyanate, cyanate, phenol, cresyl, thymol; further, formaldehyde soaps (preferably in liquid form), methylene blue soaps, and iodoform soaps which exhale the chemical's characteristic odor.

Soaps formulated for pest control in veterinary use include sulfur, pyrethrum, derris and mercury.

Some of the soaps formulated for skin ailments are made with colloidal sulfur based on organic sulfur compounds. Resorcin is used for keratolic and antiseptic treatments. The carbonates triethanolamine are added to products in which a strong alkaline character is desirable.

So-called "acid" soaps exist as well; they hold salicylic and boric acid. As a substitute for the sulfonates of fatty alcohol they may also hold lactic acid.

An unusual formulation of hemostatic soap includes the citrates of sodium and magnesium, vitamin K, and sodium ethyl sulfonte.

Preparation of Medical Soaps

These medical and cosmetic soaps offer no difficulties in preparation. The chips are softened by heat application and thoroughly kneaded with the additives. Liquids are directly added to the chips; the solids are finely ground and sieved, or, dissolved in water and alcohol. Mercuric iodide soap is made with a solution of this chemical, and potassium iodide.

Attention should be called to the fact that some soap compositions develop incompatibilities in themselves. Thus, salicylic acid will precipitate the fatty acids in the presence of water so that the resulting soap will really hold sodium salicylate and free fatty acids. The same applies to boric acid, particularly where traces of glycerin are present. Therefore, the products indicated must be added as dry powders. Through double decomposition, mercuric chloride will precipitate insoluble mercuric soaps having no antiseptic properties whatsoever. In alkaline soaps the active principles of derris and pyrethrum may be destroyed.

In all these instances the mixture must be thoroughly homogenized by several runs through the amalgamator or mill.

As to the results to be expected from the use of medicated soaps, different authors hold different views on the subject. One group has stressed how perfectly medicated soaps carry their active ingredients into the skin, and they make a strong point of their wetting powers. Other specialists give more thought to the fact that the main purpose of using a soap is, to clean the skin of all impurities, so that the same preparation can not very well be supposed to serve as a vehicle for substances intended to enter—instead of leaving—the skin.

Proper Application of Medical Soaps

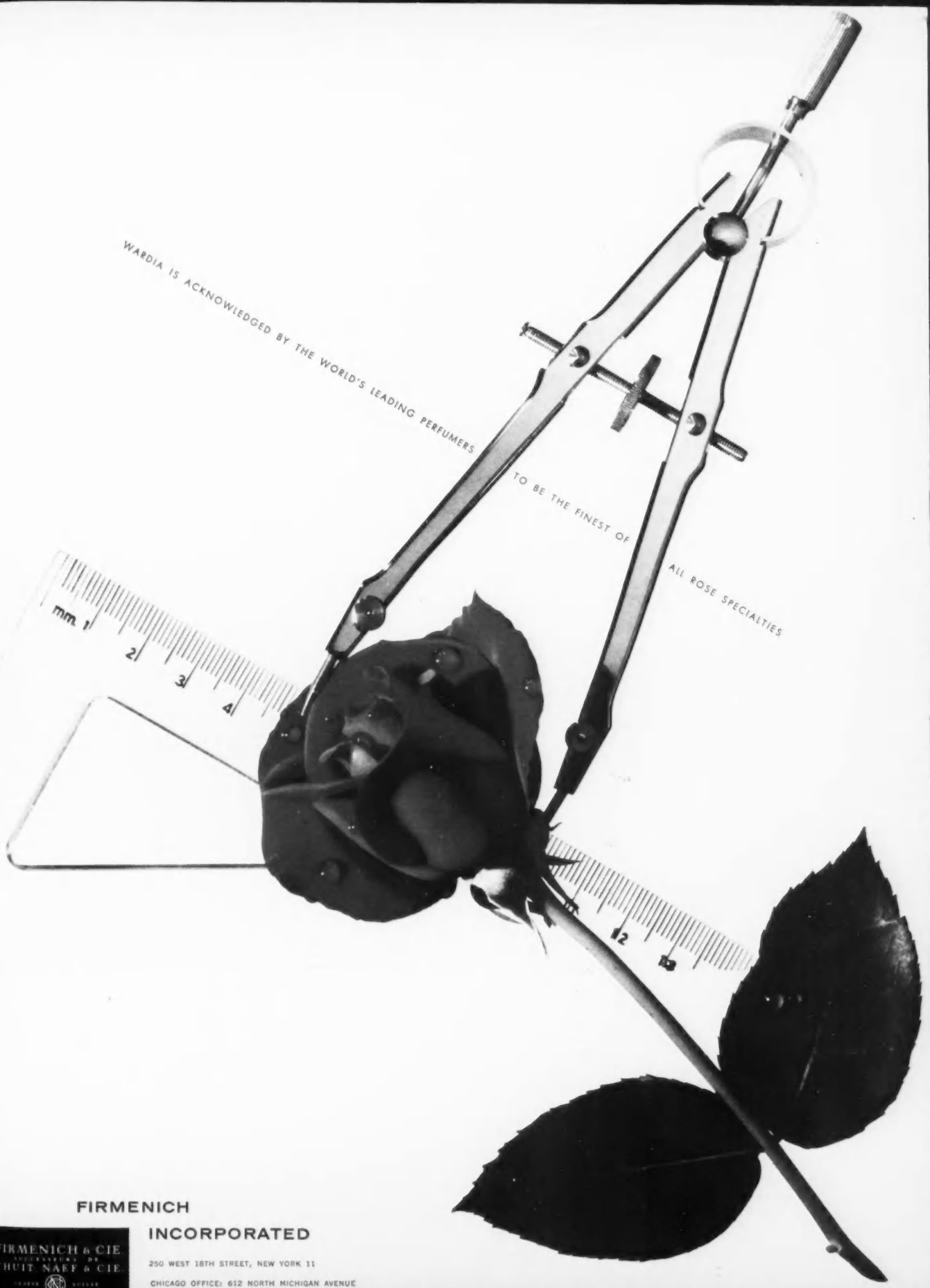
Practically speaking, the action of a soap depends upon its method of application which should be precisely specified in dermatological products. Evidently, the period of time during which the medicine stays on the epidermis is too short for good results where medicated soaps are employed like toilet soaps; in this case the medication is rinsed off with the impurities. An extensive massage of the lather into the skin is indispensible for efficacy, and this should be followed by a swift and incomplete rinse, and no rubbing-off with a towel.

There is no doubt that, in many instances, soap may increase the efficacy of medical principles added to it. From papers published on skin trouble resulting from the use of soap—particularly from the work of Edwin Sidi ("Vie Medicale" Dec. 1952) we may conclude that excema caused by the action of soap alone are rare, but that the lather favors reactions of the skin due to the perfume added, to the chemicals in the soap, and even to those the user has got in touch with before washing. Therefore we may assume that soap, if adequately used, will facilitate the action of medical preparations added to it. However, the same lathering procedure will also carry the risk of skin trouble through medication. For a more intense action, some medicated liquid soaps are used in the manner of massage oils or spread out on dressings, which applies particularly to the glycerol of soaps (Hebra's formulas), alcoholic saponulates made with additions of iodine, etc.

Antiseptic Soaps

Antiseptic soaps are mostly used in prophylactic applications. The active principles are incorporated in the formula to increase the bactericidal power of the soap, and here, directions for use should not differ from those for normal toilet soap. For real effectiveness, lathering should be more accurate and prolonged in this case, and effected with hot water.

Some of the formulas used will develop incompatibilities in the chemicals as such. Thus, the action of sublimate soap is not superior to that of neutral soap because insoluble and inactive mercury soaps are precipitated. The cleaning power of



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phenolic soaps will also decrease with time because phenolic alkalies are formed. The peroxides and persalts are subject to decomposition. One of the most interesting products developed recently is a soap including oxycyanide of mercury which is stable, of low toxicity, but active even in weak solutions.

Considerable progress has resulted from the advent of antiseptics derived from chlorinated phenols,—the diphenols in the first line. The following compounds have been found to increase the action of soaps, even in 1-2% addition: chlorothymol, chlorocresol, chlorometoxylenol, the bis-methylene of chlorophenol, and octachlorophenol, —particularly, the 2-2-dihydroxy hexachloro diphenol of methane, or, hexachlorophene (GII).

The testing work connected with the discovery of these products has led to the development of accurate methods for measuring the antiseptic power of soaps in vitro, in vivo, and under normal washing conditions. One among these is the Price method of basins, simplified by Cade (*Soap and Sanitary Chemicals*, Dec. 1952). A more widespread use of antiseptic soap is to be expected as a result of this work, and new compounds serving this purpose will, no doubt, be placed on the market.

The "improved" soaps include no medical components though, of course, they may serve as vehicles for medication. Their main purpose is to avoid the discomfort which normal soap causes to patients suffering from skin trouble or having a natural intolerance to the action of soap. These "improved" soap compounds offered by French companies are formulated to show only a weak alkaline reaction; they are based upon the carbonates and triethanolamine. The so-called "acid" soaps in this group are substitutes, based on the sulfonates of fatty alcohols; their pH is between 5 and 2. Some of these are medical specialties used in the French Health Services. In superfatted soaps, lanolin, lecithin, and cholesterin are used, while casein serves as a buffer of alkaline compounds.

Medicated soaps are rarely—if ever—employed alone; they are prescribed as a complementary treatment. Thus, in a scalp and hair preparation, the cleaning action of soap will be part of the prescription and combined with the usefulness of colloidal sulfur. Where pomades and lotions carry the medication, a medicated soap will complement their use. Increasing attention is now being given to the "improved" soaps and to acid soap replacements —with, or without, chemical additives.

A special study of medicated soaps would be apt to make their use more popular. This might parallel the increased sales of antiseptic soaps and products holding sulfur, or reducing compounds, might thus be promoted. In each package directions for use should be given which should specify the time during which the lather should remain on the skin—depending upon the percentage of active ingredients added. The base of these soaps should be specially developed to exclude skin trouble. The alkaline character which is too pronounced in some of the present soaps, should be closely controlled in medicated products which—in this point—should follow and even surpass, the example of our well-established toilet brands.

Rutgers University-Colgate Laboratory Is Dedicated

The Division of Dental Medicine of the Colgate-Palmolive Co. in cooperation with Rutgers University, New Brunswick, N. J., was dedicated on June 20. The ceremonies, held on the grounds of the University, marked the beginning of a unique program in dental research. The dedication was attended by some of the nation's leading dental and industrial scientists. For the first time, scientists especially trained in this field will staff an industry-supported laboratory exclusively devoted to basic studies in oral health.

This partnership of Colgate-Palmolive research and the scientific facilities of Rutgers University is dedicated to expanding scientific knowledge of the oral cavity as a joint contribution to the public welfare. The new division will be primarily concerned with the biological sciences such as pathology, histology, pharmacology, histochemistry and bacteriology. Its scientists will explore such basic problems in dental medicine as the origin of periodontal disease, the causes of dental decay and the role of nutrition in dental health.

P&G's New Coupons Speed Up Checkout

Procter & Gamble has added several new features to its couponing program, designed to make the whole coupon setup more convenient for the grocer—and for itself.

Grocers are offered shelf talkers and door and cash register signs to facilitate the flow of couponed products. Shelf talkers remind the purchaser to be sure to pick out the items which the coupon calls for. The cash register card reminds the consumer to have his coupons ready for the checker. Door signs welcome coupons and also remind the buyer to select the brands called for.

With mailings of the coupons, P&G is including a folder, "How to Help Your Dealer Save You Money," which emphasizes the following points: "1. Be careful to select the right brand for each coupon. 2. If you shop in a self-service market, have the right brands in your basket and have your coupons ready when you come to the check-out counter. This way you save your time and your dealer's time. 3. Redeem all these coupons. Every one of the products called for has been improved in some important way during the last year. This is your opportunity to try these improved products at a substantial saving. 4. If you choose not to redeem all your coupons, please destroy those you do not use."

These coupons are new too. They are uniform, purse-size punch-cards. The punch-card makes it possible to handle the coupons electronically and speed up reimbursement to the dealer, P&G says.

Niagara Alkali Sales Combined with Hooker Electrochemical Sales

Hooker Electrochemical Co. has completed the integration of the Niaraga Alkali sales department into the Hooker sales department.

Mennen Co. Reduces Trade Prices on Its Shampoo

Effective July 2 the Mennen Co. reduced its dealer cost prices on Mennen Shampoo. The consumer price will not be changed until September 3. At that time the consumer price will be reduced from $1 a bottle to 75¢. The plan allows all retail outlets 60 days to sell out stocks of Mennen Shampoo for Men purchased prior to July 2. At the same time retailers can purchase the shampoo at the new lower costs and sell it at the present $1 price.

Old D. C. Statute Perils Premiums Coupons, Boxtops

Repeal of a "lost" statute in the District of Columbia which would outlaw the distribution of many kinds of premiums and hamper the use of coupons and box tops used largely by soap manufacturers is being sought.

Preserving Plants and Foliage With Glycerine

Garden flowers, shrubbery and tree foliage may be preserved with glycerine to make dried bouquets for home decorations. Glycerine Facts reports. Most varieties of foliage and leaves can be preserved by standing mature specimens in a 50-50 glycerine-water mixture for from two to three weeks. After processing the foliage turns a brown color and is said to last indefinitely.

SAFETY IS WELL IN HAND . . .

when you preserve with PARASEPTS®

Here is your solution to the problem of *safe* and effective preservation of products vulnerable to fungal and bacterial attack. By preventing the growth of such microorganisms, Heyden Parasepts eliminate costly breakdown, resultant malodor and discoloration of your product.

Harmless and non-irritating to the skin, the Parasepts find wide use in creams, lotions and other cosmetics; also in finger paints, tooth pastes and antibiotics where a low level of toxicity is required.

As non-ionic, neutral esters, Parasepts may be used in combination with other preservatives to achieve protection with maximum safety.

You will benefit from these outstanding advantages of the Parasepts:

- **Colorless, odorless and tasteless in recommended concentrations.**
- **Non-irritating to skin; extremely low toxicity.**
- **Economical—effective in low concentrations.**

Heyden offers Methyl, Ethyl, Propyl, and Butyl Parasepts in purified and technical grades to meet your specific requirements.

Write for Bulletin PSPT-1 and detailed technical information.

FINE HEYDEN CHEMICALS

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New PRODUCTS & IDEAS

VACUUM GAUGE—1

The thermocouple vacuum gauge of the Arthur F. Smith Co. is designed for vacuum measurement in the range of .5 microns to 1000 microns Hg. The manufacturer says that to operate, one simply connects the gauge tube to the vacuum system, attaches the instrument to a standard power source, and obtains a reading with an overall accuracy of 2 per cent. The size is 7 inches wide by 6 inches high; the weight is 4 pounds. Features claimed for the instrument are: voltage stabilized circuit; temperature compensation; low temperature thermocouple, which insures contamination-free reading and continued accuracy; design provision for connection to continuous recording and controlling equipment; long tube life (average over 3000 hours); and low power drain.

RESERVOIR COMB—2

The Groom-Master is a reservoir comb manufactured by Call Combs which is an applicator-massager for applying hair tonics, dandruff removers, shampoos and other liquid preparations to the scalp. The liquid flows from the reservoir through hollow ball-point teeth. The instrument is said to apply almost all of the standard free-flowing non-creamy products directly to the scalp with very little on the hair itself and without disturbing the grooming or wave set. A recommended use for the comb is the tinting of hair at the scalp.

AEROSOL SCREW TOP—3

The Builder's Sheet Metal Works, Inc. produces an aluminum snap-on screw top for aerosol cans. The manufacturer recommends it as a refillable aerosol can; an instrument to spray private formulations; laboratory equipment for testing formulas and their actions on cans and valves; a package for new products suitable for aerosol dispersal. The cold product and cold propellent can be put into the cold can; or if pressure filling is desired, it can be accomplished through the valve after assembly of the top on the can filled with the product. It is claimed that the device, which can be used over and over again, eliminates the expense of a capping machine.

SODIUM LAURYL SULFATE

Pendit WA Cosmetic is a brand of sodium lauryl sulfate produced by Raymond Laboratories, Inc. It is manufactured specifically for use in cream shampoos, either liquids or pastes, but is also recommended by the producer as an emulsifying agent in such applications as dishwashing compositions. The product is said to be the lightest colored sodium lauryl sulfate available today, and to yield uniform results when successive batches are formulated into shampoos. At normal temperatures it is claimed to be indefinitely stable under neutral or alkaline conditions.

HEATED GAGES

The Jerguson Gage and Valve Co. has announced the development of an electrically heated unit to supply the need for heated gages and valves where there is no steam available. They are designed to solve the problem of heating cold liquid such as waxes so as to get an accurate reading, or for use in cold weather applications to prevent gage freezing and breakage. An electric unit may be installed with a temperature control or thermoswitch positioned within the gage column to regulate the amount of heat output of the electrical element. The heating element in the gage is a Chromalox unit for 120 or 240 volt A.C., with wattage output to meet requirements. The valves are wrapped with resistance wiring that has similar characteristics, and sealed in the metal jacket.

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Emulsifiers

For ease of use — For dependable results — For solving difficult problems

Tegacid . . . . . Glyceryl Monostearate—Acid Emulsifying. For anti-perspirant—deodorant creams, lotions and ointments —all greaseless, medicated formulations.

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1. THE HANDBOOK OF SOLVENTS.

By Leopold Scheflan and Morris Jacobs. The most useful reference work on solvents available today. The properties, uses, action and technology of solvents are covered in this comprehensive handbook. Two major sections: 1. Covers theoretical aspects and practical attributes of solvents such as solvent action, solvent power, evaporation and evaporation rates and limits of inflammability. Discusses in detail solvent recovery, stresses safe practices; 2. The physical constants of over 2,700 liquid compounds are tabulated. Arrangement such that you can compare, at a glance, the so-called literature constants with the commercial constants of each solvent. 728 pp., 7 x 10; 17 illus. $10.25 postpaid.

2. SOAPS AND DETERGENTS.

By E. G. Thomssen, Ph.D. and J. W. McCutcheon, M.A., D.C.I.C. A volume for the practical soap maker. Synthetic detergents thoroughly discussed. Tabulates 250 surface active agents, their classification, trade names, manufacturers and application in the soap industry. Covers continuous soap making processes, soap perfuming and coloring, equipment, processes and methods. Up-to-date, authoritative. 511 pp., 66 illus. $9.25 postpaid.

3. THE FUNDAMENTALS OF DETERGENCY.

By William W. Niven, Jr., Research Chemist & Consultant, Midwest Research Institute. A thorough-going treatment of the theory and practical applications of detergency. Discusses: 1. The effects of composition, concentration, temperature and added electrolytes on the nature and properties of aqueous detergent solutions; 2. The fundamental actions which constitute detergency and the role of detergents in aiding these actions; 3. The means of utilizing the various fundamental detergent actions in laundering (a typical application). 260 pp., illustrated. $6.75 postpaid.

4. MANUAL FOR THE ESSENCE INDUSTRY.

By Erich Walter, Comprises modern methods with formulas for making all kinds of essences for liquors and alcoholic drinks, fruit juices and jams, mineral waters, essences of fruits and other vegetable raw materials, essences for confectionery and pastry. Describes raw materials and laboratory practice. Discusses taste and the transfer of flavor to foods and beverages. A standard work for many years. Contains 427 pages, 37 illustrations. $8.25 postpaid.

5. PERFUMERY SYNTHETICS AND ISOLATES.

By Paul Z. Bedoukian, Ph.D. This carefully compiled volume supplies a genuinely felt want for authoritative data on perfumery synthetics. The work contains the history, chemistry, physical and chemical properties, manufacture, uses, and other pertinent data of the principal perfumery compounds; and covers the important perfumery synthetics. A complete index adds to the value of this useful book. 488 pages, $8.75 postpaid.

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7. HANDBOOK OF COSMETIC MATERIALS.

Their properties, Uses, and Toxic and Dermatologic Actions. By Leon Greenburg & David Lester. With a chapter on The Skin by Howard W. Haggard. Contains alphabetical listing, with frequent cross references, of information on approximately 1,000 substances. For each compound gives: Formula (including collateral names); Properties; Uses, Toxic Action; Dermatologic action. Exhaustive bibliography. Essential for Manufacturing Chemists, Cosmetic Industry, Chemical Specialties Industry, Dermatologists, Allergists, Industrial Hygenists. Published 1954. 467 pp. $12.75 postpaid.

8. COSMETICS—Their Principles & Practices

By Ralph G. Harry. No other book in this field gives such a combined wealth of medical and technical data on every phase of the subject. To mention but a few examples, it discusses the skin, its nutrition and scientific care; the hair, its proper grooming, the physicochemical problems involved in its washing, and the potential hazards to the eye mucosa of the use of some detergents; the teeth and their care, covering the present status of antibiotic, antienzymic, ammonium-ion and chlorophyll dentifrices, and the luster-producing properties of toothpaste ingredients, etc. Much of the information in the book has its source in the research activities of the well-known author, which date back for many years and embrace the fields of chemistry, dermatology and microbiology. 786 pages, 120 illustrations (some in full color), 1956, $17.25 postpaid.

9. THE ESSENTIAL OILS.

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I-Quiz

This Month's Quiz Master

Marion B. Sulzberger, M.D., F.A.C.P.

Professor and Chairman, Department of Dermatology and Syphilology, New York University-Bellevue Medical Center; Director of Dermatology, New York Skin and Cancer Unit of University Hospital.

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Second; by attempting to remove from each ingredient the "impurities" which are sometimes in some way concerned in the production of the allergic reactions (as has been shown in the case of lanolin, certain lipstick dyes, etc).

Third; by attempting to make general proper testing procedures for newly introduced ingredients and preparations. I have long advocated that in each and every category of cosmetics and ingredients, a material which has been time-tested in actual use by millions of consumers and is of known sensitizing potential and acceptably low incidence of reactions, be selected by the industry as a *standard*. All newly introduced preparations or ingredients should be tested for their sensitizing potentials *comparative* to the selected standard, by means of the appropriate skin-sensitization tests on laboratory animals and especially on human subjects, performed simultaneously and on the same subjects with the new unknown agent and with the standard. In this way one should be able to ascertain and make a permanent record of the Relative Sensitizing Potential (R.S.P.) of both old and new preparations and ingredients—not only in reference to the accepted standard, but through that standard also to each other—and thus give preference to the suitable ones having the lowest R.S.P.

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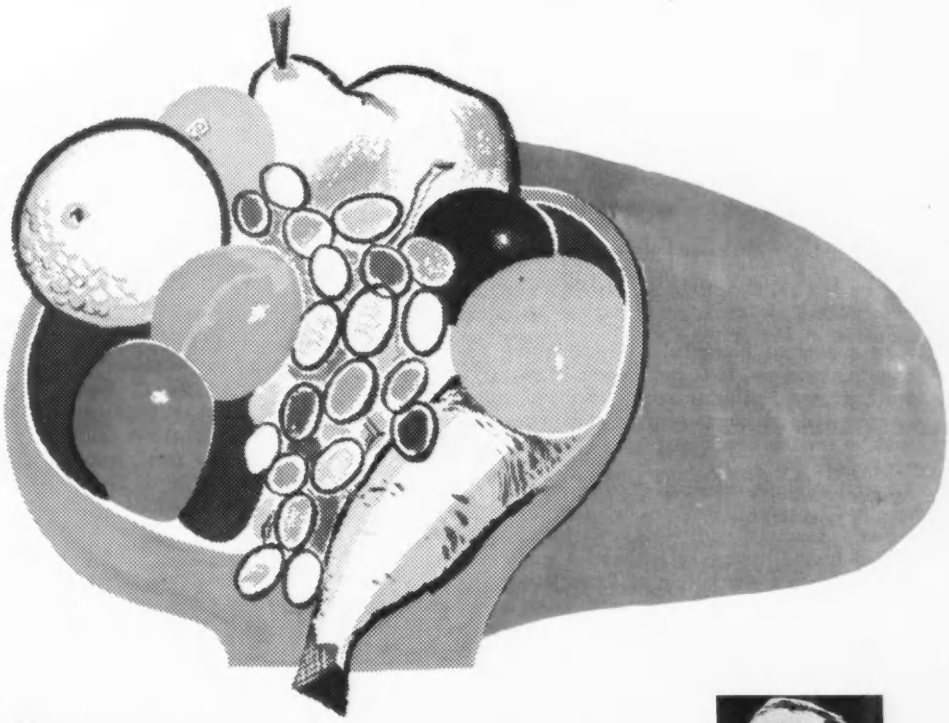


Lactone FLAVOR COMPONENTS

Some of the most important ingredients of flavor formulation are lactones such as gamma-undecalactone and gamma-nonyl lactone

MORRIS B. JACOBS, PH.D.

THE importance of the group of organic compounds known as the lactones as flavor components is often not fully appreciated because these compounds are known under different names so that their organic functional grouping is not emphasized. On a number of occasions in this section of the AMERICAN PERFUMER AND AROMATICS it has been stressed that the use of improper nomenclature for these compounds is not only a hindrance to chemists in general but also to the flavor chemist himself. To illustrate this point it need only be mentioned that a number of compounds to be considered in this particular paper are commonly termed aldehydes even though it has been known for many years that they are not related to aldehydes at all.

Inner Esters

The gamma- and delta-hydroxy organic acids are able to form cyclic inner esters and the five- or six-membered rings formed are often more stable than the parent compounds. The compounds formed from gamma-hydroxy acids, for instance

$$HOCH_2CH_2CH_2COOH \xrightarrow{-H_2O} CH_2CH_2CH_2C{=}O \quad (\text{O bridge})$$

gamma-hydroxybutyric acid — gamma-butyrolactone

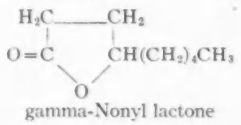
gamma-hydroxybutyric acid, are known as gamma-lactones, in this instance gamma-butyrolactone and those formed from delta-hydroxy acids are correspondingly known as delta-lactones.

In contrast to many of the major synthetic flavoring components which belong to the benzenoid, naphthalenoid group, the butyro- and valerolactones, despite their ring structure are classed with the aliphatic, acyclic group.

Butyrolactones

The more important lactones used in the preparation of flavors are butyrolactones, generally gamma-substituted butyrolactones.

gamma-Nonyl lactone, that is, *n*-amylbutyrolactone, also known as gamma-pelargolactone, gamma-nonalactone, 1, 4-nonanolide, so-called Aldehyde C_{18}, and by several trade names, one of which is Prunolide,



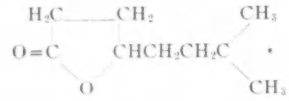
gamma-Nonyl lactone

is a colorless to yellowish liquid with a powerful odor reminiscent of coconut. It boils at 137-138 deg. C. under reduced pressure of 14 mm. and at 113-114 when the pressure is 4 mm. A commercial product has a specific gravity in the range of 0.956 to 0.963 at 25 deg. C. and has a refractive index of 1.447 to 1.451 at 20 deg. C.

gamma-Nonyl lactone has been recommended for use

in coconut, hazelnut, and other nut flavors, and for use in perfumes such as tuberose and gardenia particularly for lipstick perfumes.

An isomer, *isoamylbutyrolactone*

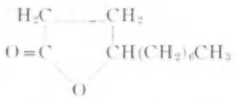


is an analogous powerful odorous liquid, the odor resembling peaches. It is not generally carried as a stock item by firms dealing in aromatic chemicals. It has been suggested as a component of flavoring essences but must be used in low concentrations because of its powerful odor.

A methyl, alpha-substituted amylbutyrolactone, namely, *2-methyl-1,4-nonyl lactone* or 2-methyl-*n*-amylbutyrolactone (*n*-amyl-2-methylbutyrolactone) has been described in the literature as having a minty odor. It is not carried as a stock item by firms handling aromatics.

gamma-Undecalactone is probably, with the exception of coumarin, the most important lactone used for flavoring purposes. It is known by a number of different names so that it is difficult at times to follow the literature concerning this compound. Some of these names are so-called Aldehyde C_{14}, Aldehyde C-14 pure, gamma-undecyl lactone, gamma-*n*-heptylbutyrolactone, hendecylene methyl lactone, 1,4-hendecanolide, undecanolide-1,4, undecylene methyl lactone, peach aldehyde, and by a number of trade names, the most common very likely being Persicol.

gamma-Undecalactone,



is a colorless to yellowish liquid with a pleasant odor resembling peach and apricot. It has a sweet taste and an apricot-peach flavor. This lactone boils at 286 deg. C. and has a specific gravity of 0.946-0.948. One commercial product boils in the range 286 to 290 deg. C. Another product has a refractive index of 1.450 to 1.454 at 20 deg. C. and a specific gravity of 0.941 to 0.944 at 25 deg. C.

Undecalactone has been recommended principally for peach and apricot formulations and also for cherry, plum, and prune compositions. Among the other flavor essences for which it has been suggested are cream, currant, date, grenadine, pistachio, strawberry, and other berry flavors. It is also used in perfume formulations, as for instance, in jasmine, lilac, lily, and peach blossom.

It is interesting to note that though to many these lactones are still "new" synthetic compounds, they actually were synthesized many years ago. For instance, Shukov and Shestakov made gamma-undecalactone in 1908 and Blaise and Koehler prepared gamma-nonyl lactone in 1909.

gamma-Decalactone is an homologous odorous lactone that was prepared many years ago also. Delange, in 1922, noted that it had a much finer and more powerful peach odor than gamma-undecalactone. A more recent preparation had a boiling point of 114-115 deg C. under reduced pressure of 0.5 mm. of mercury and it had a refractive index of 1.4610 at 21.5 deg. C. This lactone has been recommended for use in peach flavors but very likely can be used in compositions analogous to those in which its homolog is employed.

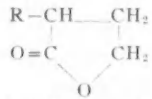
gamma-Octalactone, *gamma*-octanolide, *gamma*-caprylolactone, or 1,4-octanolide is another member of this series of gamma-substituted butyrolactones. According to Rothstein, who prepared a series of these compounds and reported his work in 1935, it has an odor of cumin; it boils at 127 deg. C. at 16 mm.; has a specific gravity of 0.9796 at 19 deg. C.; and has a refractive index of 1.4451 at 19 deg. C. A preparation reported by Seldner in the AMERICAN PERFUMER boiled at 83-86 deg. at 1 mm. and had a refractive index of 1.4610 at 15 deg. C. Seldner described this compound as having a coconut and peach aromatic character so that it can probably be used in formulations of such types.

Rothstein also prepared substituted octanolides. Thus *7-methyl-1,4-octanolide* boiled at 136 deg. C. at 16 mm., had a specific gravity of 0.9620 at 20 deg. C., and had a refractive index of 1.4452 at 20 deg. C. This compound had an odor resembling essence of angelica seed. The 8-methyl derivative, had a boiling point of 145 deg. C. at 14 mm., a specific gravity of 0.9513 at 22 deg. C. and a refractive index of 1.4462 at 22 deg. C. This lactone had a distinct peach odor.

In addition to those mentioned above and to gamma-undecalactone, Rothstein prepared *1,4-dodecanolide* (gamma-lauryl lactone) which had a boiling point of 130 at 0.5 mm., a specific gravity of 0.9383 at 20 deg. C., a refractive index of 1.4522 at 20 deg. C., and a peach, weak musk and more fatty odor than gamma-undecalactone; *1,4-tridecanolide* which had a boiling point of 142 to 143 deg. C. at 0.45 mm., a specific gravity of 0.9311 at 20 deg. C., a refractive index of 1.4532, and a fatty musk odor; and *1,4-tetradecanolide* (myristyl lactone) which melts at 29 deg. C., boils at 194 deg. C. at 13 mm. and has a weak but persistent odor.

Seldner prepared *gamma-stearolactone* (gamma-octadecanolide). This compound melted at 47 deg. C. and had a coconut and cheese aromatic character.

Rothstein also prepared a series of alpha-substituted gamma-butyrolactones, that is compounds of the type:

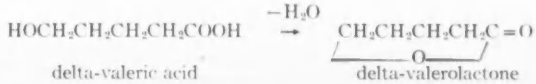


alpha-substituted gamma-butyrolactone

which had odors and flavors resembling the gamma-substituted gamma-butyrolactones. For instance, the alpha-heptyl gamma-butyrolactone which is the analog of the gamma-heptyl gamma-butyrolactone, that is gamma-undecalactone also has a distinct peach flavor.

Delta-Butyrolactones

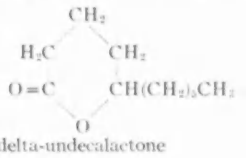
As mentioned the compounds formed from delta-hydroxy acids are delta lactones, thus delta-valeric acid yields delta-valerolactone



delta-valeric acid — delta-valerolactone

Stoll and Bolli noted in 1938 that with increase in the

lactone ring there is a corresponding increase in the intensity of odor with a decrease in boiling point. For instance *delta-undecalactone* has a peach odor that is more intense than that of gamma-undecalactone.



delta-undecalactone

On the other hand the pleasant fatty note of gamma-undecalactone is missing.

delta-Undecalactone has a density of 0.968, a refractive index of 1.462 and a boiling point of 152 to 155 at 10.5 mm.

Another delta-lactone is *delta*-Gluconolactone. Actually the substance itself is not a flavoring agent. It is a white solid which is present in solutions of gluconic acid in which the concentrations exceeds 65 per cent. The lactone has a sweet taste. On dilution it hydrolyzes to form gluconic acid. The acid is used as a flavor for fruit jellies and as a component of baking powders.

Aromatic Lactones

The principal aromatic lactone used for flavoring was coumarin or 1,2-benzopyrone, that is the lactone of *o*-hydroxycinnamic acid. This compound is not considered suitable for food flavoring purposes. The change in opinion concerning this compound has been discussed in the literature, a number of articles appearing in the AMERICAN PERFUMER on this subject for instance in the July and August issues of 1953.

One mention in this connection that *7-ethoxy-4-methylcoumarin* has been used in the preparation of walnut flavors as well as in perfumes and that *6-methylcoumarin* has been suggested as a component of vanilla flavorings and as a substitute for coumarin. The suitability of using any coumarin derivative for flavorings for food use should be thoroughly investigated.

FLAVORED NOTES

The Institute of Food Technologists held its sixteenth annual meeting at St. Louis from June 10 through June 14.

As usual a number of papers were presented that were of interest to the flavor field. Among these were: "An apparatus designed for the rapid electrochemical estimation of flavors in vegetables" by John Hartman and Wayne E. Tolle, Department of Vegetable Crops, Cornell University; "Some Observations on Red Pepper—I—Isolation and Analysis of Capsaicin" by John I. Suzuki, Fred Tausig, and Roy E. Morse of the Wm. J. Stange Company; "Triose Compounds in Maple Syrup" by J. C. Underwood, H. G. Lento, Jr., and C. O. Willits, Eastern Regional Research Laboratory, Eastern Utilization Research Branch, Agricultural Research Service, U. S. Department of Agriculture, Philadelphia 18, Pa., (This is a continuation of the work of Willets and his co-workers on the flavor of maple syrup.); and the "Flavor Permeability in Food Packaging and its Evaluation" by M. Karel, B. E. Proctor, and A. Cornell, Department of Food Technology, Massachusetts Institute of Technology.

There was also a Symposium in commemoration of the 50th anniversary of the Food and Drug Law and a panel discussion on the current status of chemicals in foods.

—*M.B.J.*

Dodge & Olcott Introduces "Blend & Serve" Products

At the Institute of Food Technologists Convention held in St. Louis in June, Dodge & Olcott, Inc. introduced its new "Blend & Serve" line. Developed by the company's Dry Solubles Division, the line is composed of a group of convenience products in dry powder form which require for the most part only water to complete. Available are sauces, gravies, dressings, soups, soft drinks, milk shakes, lemonade, ice creams, and others.

President Signs Revised Sugar Act of 1956

President Eisenhower has signed H.R. 7030, revised Sugar Act of 1956, which extends sugar control for a four year period or until 1960.

The law in part provides that 55% of the quota over the basic 8,350,000 tons heretofore established for 1956, shall go to the domestic areas, and 45% of any increase over 8,350,000 tons shall go to Cuba and the full-duty areas.

The bill further provides that regarding the 55% increase over the quota of 8,350,000 tons, it shall be shared by the domestic producers of the United States beet and mainland cane areas, and in substance as follows: 51.5% allocated to the domestic beet area and 48.5% to the mainland cane area.

Hawaii Requires Label Declaration on Beverages

The Department of Health of the Territory of Hawaii had taken a definite stand that all finished beverages bear an ingredient label declaration, being a food fabricated from two or more ingredients as provided for under the misbranding section of the Hawaii revised food, drug and cosmetic law.

The Hawaiian food, drug and cosmetic law passed in 1945 is patterned after the Federal Food, Drug and Cosmetic Act of 1938, as amended.

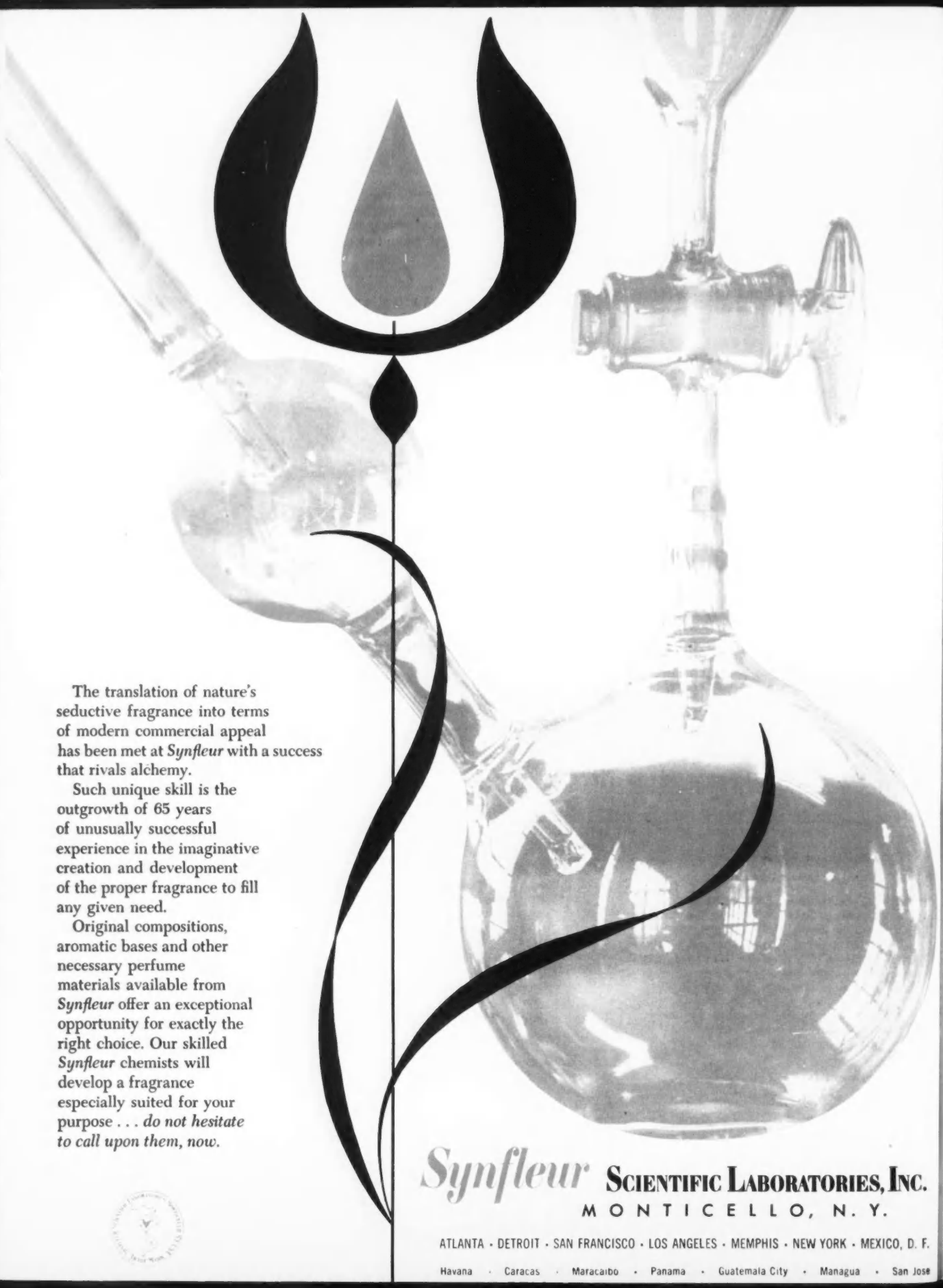
Rhodia Announces Sales Representatives

Rhodia, Inc., New York, has announced the appointment of Comerciale Reka S. A. as sales and technical representative for synthetic aromatic chemicals and compounds and "Alamask" industrial deodorants in Mexico, with offices in Mexico City. Also announced was the appointment of Luis Felipe, Havana, as sales and technical representative for these products in Cuba.

Pfizer to Build Factory in Italy

Chas. Pfizer & Co., Brooklyn, N. Y., plans to add another unit to its group of foreign facilities—this one in Italy.

A factory site has been acquired at Latina, forty miles southwest of Rome. The plant is scheduled to be in operation next spring. It will produce antibiotics, other pharmaceutical products and animal feed supplements.



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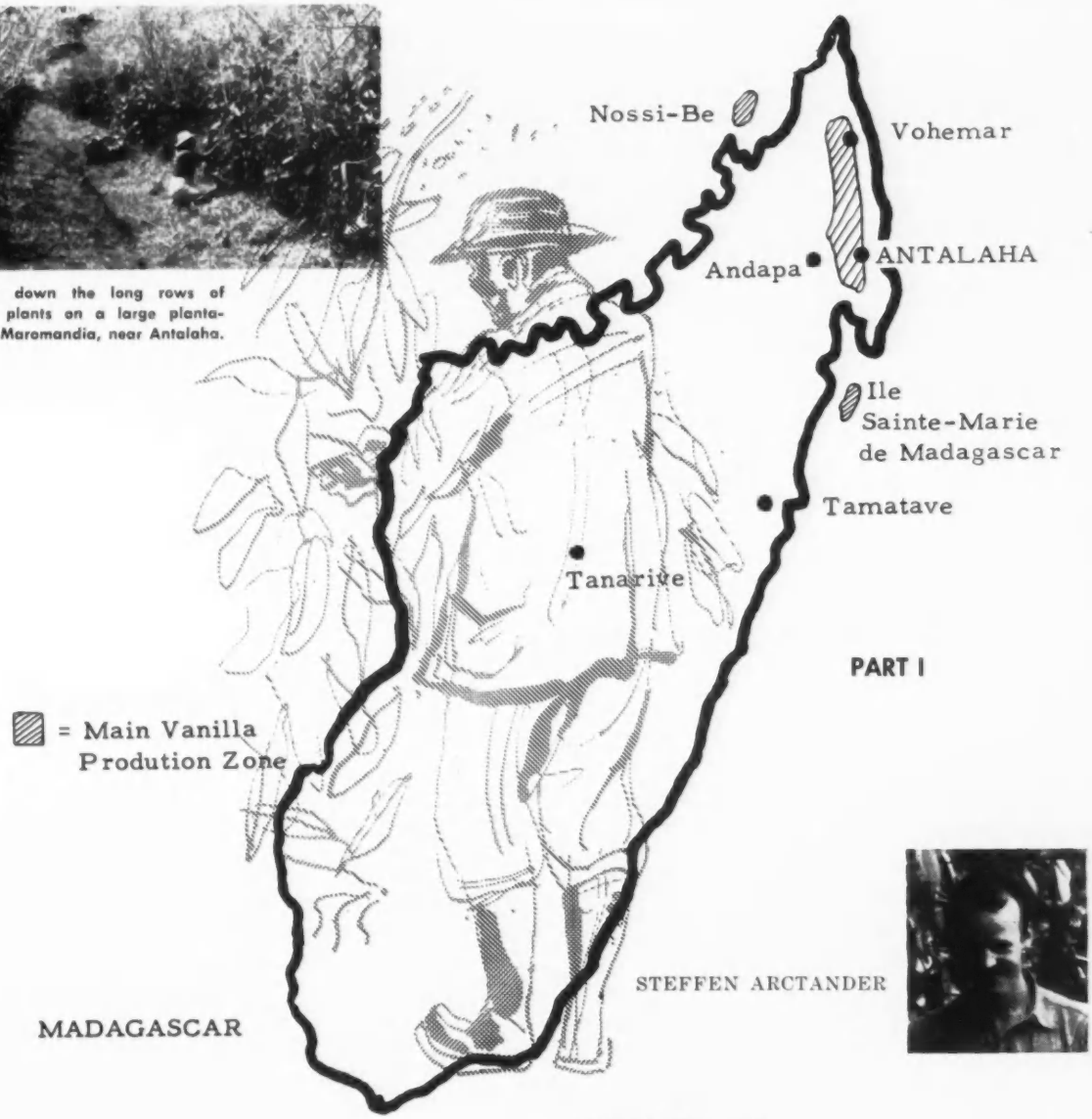
Looking down the long rows of vanilla plants on a large plantation at Maromandia, near Antalaha.



PART I

STEFFEN ARCTANDER

JOURNEY TO

Antalaha — Capital of Vanilla

MADAGASCAR, huge island off the south-east coast of Africa, is very little known in everyday life. Products from Madagascar, however, enter the American and European market in number: vanilla, cloves, clove oil, raffia, rabanes, graphite, radio quartz, etc. Among these products, vanilla, oil of cloves and raffia rank first, and Madagascar remains in this connection the foremost supplier to the United States.

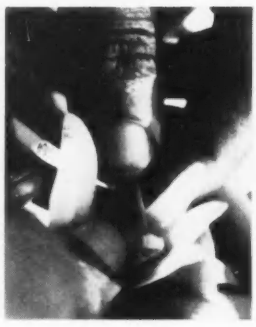
On-the-spot studies of vanilla preparation and vanilla growing were my main targets on a recent trip. I planned to arrive in Madagascar late in November, 1955. Although the main harvest of the pods takes place in August, it occurred to me that November-December might give a more general view of the preparation, the artificial fécondation (fertilization by hand), sorting and general treatment of the pods.

Antalaha—Capital of Vanilla

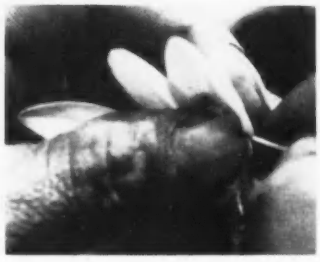
Antalaha, little more than a village on the north-eastern coast of Madagascar, remains the capital of vanilla. Andapa, some 50 miles inland (as the crow and most airplanes fly) is steadily gaining on all other producing areas, and holds first place as far as rich vanilla plantations are concerned. With no roads at all, Andapa is yet extremely dependent on its airplane contact with Antalaha, from where up to 80% of the total vanilla export leaves the Madagascan vanilla producing

ARTIFICIAL FERTILIZATION OF THE VANILLA FLOWER

The vanilla flower which is to be fertilized is carefully seized.



The "fécondation à main," or the actual piercing of the thin wall.



The sticky pollen is transferred by a simple action of the fingers.

region. Actually, the loading of barges and canoes under the heavy surf at Antalaha, the natives carrying export cases one by one through the surf, stepping hip-high in the sea to the barges, is among the most fantastic and picturesque sights. Vanilla worth millions of dollars is carried to these small coastal crafts by hand as far as the sharks allow the natives to go, and in the small crafts the well-packed pods are freighted to Tamatave, Madagascar's largest seaport, and the only one on the island capable of taking 10,000-tonners alongside quay. Here, at Tamatave, are found larger vessels taking over the precious cargo of vanilla from remote plantations in the north.

Island of Madagascar

For a short introduction, and to fully comprehend the enormous difficulties to overcome before producing such quantities of vanilla for export, I should like to mention at this stage a few facts about the island itself:

Separated from the African continent by the Mozambique Channel, which averages 280 miles in width, Madagascar is the third largest island in the world. With its 1,000 miles from north to south, and up to 360 miles in width, it covers some 230,000 square miles, or an area corresponding to France, Belgium and Holland together, although the population of Madagascar numbers little more than 4 million people, about 50,000 of whom are Frenchmen. Apart from the large native tribes we also find 15-20,000 Indians and Chinese, who together with the man-pushed rickshaws found in all larger towns of Madagascar, are mainly responsible for the oriental aspect of the island. A theory has been created concerning the arrival of the majority of the inhabitants of Madagascar. These people, looking much like Melanesians, may have come by large outrigger canoes from Indonesia, separated from Madagascar by 4,000 miles of Indian Ocean! The results of the famous "Kon-Tiki" expedition prove that such trips are and were practicable, owing to equitorial sea-currents. But Indonesia is far from Melanesia, and all this remains a theory.

Very little is known about the prehistory of Madagascar. Probably the first human beings descended on the island about the beginning of the Christian Era. The great lemurians of the woods in the interior of the island were soon exterminated, and so was the huge bird, aepyornix, whose eggs are still occasionally found in the bush of Madagascar. Such eggs measure from 2 to 3 gallons in volume, which gives some idea of how big the bird was. Among the lemurians now left are the makis, friendly, fourhanded, fruit-eating and tree-climbing creatures easily found on the very small island of Nossi-Komba (i.e. "Isle of Monkeys") between Nossi-Bé and Madagascar's northwest coast.

As the larger part of the island of Madagascar is composed of high plateaus averaging an altitude of 3-5,000 feet, occasionally reaching 9,000 feet on some peaks, only a comparatively small area of the island lends itself for clove and vanilla growing.

Production of Cloves and Vanilla

The production of cloves and vanilla is being kept at a steady level. The market price of cloves has risen considerably during the past 5 years, and the vanilla market seems to be distinctly recovering. The price of vanilla beans (pods), however, is exposed to very large fluctuations. The total export of vanilla varies from 600 to 1,200 tons a year, but owing to the high value of this product, it remains one of the most important incomes of Madagascar. In comparison with the other large

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French possessions in Africa, Senegal, Ivory Coast, Somali etc., all which have been criticized as "mono-export" regions, e.g. cocoa from West Africa, groundnut from Senegal, hides and skins from Senegal, Madagascar has many, although smaller, items of interest for export. We may mention at this stage that Madagascar is the largest world producer of vanilla, clove oil and raffia. For vanilla, a certain danger exists in the fact that the United States buys between 60 and 80 per cent of the total vanilla production of Madagascar, and in case of increased use of vanillin and related synthetics for vanilla-flavouring purposes, natural vanilla may easily suffer heavy decrease because of the great difference in price between this product and the synthetic vanilla flavours. An advertising campaign has now and then pushed the sale in the U. S. significantly, and new methods of analysis may support these campaigns by making it actually impossible to make a product called "Vanilla Extract" or "Vanilla Tincture" unless the product actually has been made exclusively from vanilla pods with the aid of one or more solvents—in other words, with natural vanilla as the only active aromatic. Generally, an extract for household use or the like should contain 10 per cent vanilla pods or the extracted matter thereof.

History of Vanilla

The vanilla plant is a vine which originated in Mexico or some Central American region, where it grew wild. During the centuries of the great explorers, a Spanish ship brought plants to Europe, and some French botanist succeeded in keeping several under glass in Paris. Specimens of the vanilla plant were taken on French ships to the Comoro Islands between Africa and Madagascar.

The plant, however, did not produce fruits (pods) in Europe. at Réunion or elsewhere outside its country of origin. It was thus considered without interest until someone got the idea of fertilizing the vanilla flowers artificially.

This was indeed necessary as in the flower a thin wall of tissue separates the single stamen and the pistil, thus preventing self-fertilization. In its homeland, this drawback is without importance, as a certain insect, which is only found there, visits the two separated parts of the flower successively, and thus makes good the deficiency of nature. In Réunion, Madagascar and in other vanilla-producing regions outside Mexico, therefore, the plant will fruit only if, at the flowering season, the plantation workers pierce the thin wall with a lemon wood or a bamboo spike and fertilize the pistil.

The vanilla flowers which develop at the end of a shoot form large "grappes" (bunches), with 15-20 flowers in each bunch. The flowers are greenish-white and therefore rather insignificant in spite of their 1-2 inch size. The pollen is not a fine, dry dust, but is fixed in lumps or masses, a fact which contributes to the difficulty of fertilizing this flower.

The vanilla plant was introduced about 1820 in Réunion Island ("Bourbon"), and in Madagascar about 1841. Like the clove, it arrived first at the small island of Sainte-Marie off the east coast of Madagascar, then on Madagascar itself, especially around Antalaha, which remains the capital of vanilla preparation and export.

The vanilla growing area in Madagascar corresponds to a certain extent to that of cloves, but has very strict limits geographically: it is only to be found between the 12th and the 24th parallels. The plant requires both heat and humidity, and does not adapt itself to an altitude of above 1,500 feet, where it refuses to flower. Laterite soil, the most common in Africa and many other tropical regions, is not suitable for vanilla growing. This means that the plant is confined to a narrow strip on the east coast of Madagascar from Mangoro River estuary at 22° south latitude to Vohémar at 13° south, and to a lesser extent along the northwest coast facing Nossi-Bé, on the island of Nossi-Bé itself, and in the Comoro Islands. Very small quantities grow on the African continent along the coast of Tanganyika, and is mentioned only because of the comparatively high quality of the pods prepared here.

Growing Procedures

As the vanilla plant is a creeper, it has to be provided with props. Dead props decay very rapidly in this climate. It is therefore preferable to use small, solid props with a light foliage. In Réunion Island Croton plants or Filao's (Casuarina Equisetifolia) are among the most common props in use, while in Madagascar I noted several others beside Filao's: Glyricida maculata, Jatropha curcas (the so-called "pignon d'Inde"), Dracena and some species whose French names are murier, bois de chandelle, bois noir ("Albizzia"), etc.

The vanilla plant is propagated by cuttings, which are set out in beds, generally situated on a hill-side, so that the creeper can be exposed to the sun as much as possible. These beds are cultivated and manured. The state research stations at Ivoloina (8 miles north of Tamatave) and the very active one 15 miles west of Antalaha are very busy finding out new methods of manuring, and likewise the larger growers carry out experiments on this problem. In the Comores, not very important as producers, they use exhaust lemongrass from the distillations as manure for vanilla.

The vanilla plants can be grown as densely as 3-5,000 plants per hectare. While the plants are growing, the soil requires little attention, but a couple of months before the flower buds appear, the creepers are topped, an operation known from other cultures, to increase the inflorescence or blossoming. About 100 flowers will produce 1 kilo of green vanilla pods, ready for harvesting, and to produce 1 kilo of a normal "première" quality of the finished spice, requires 3.2-3.5 kilos of green pods.

Fertilization of the Blossom

The blossoms must be fertilized once they have opened, and preferably between 6 and 11 a.m., since the non-fertilized flower withers the same afternoon, and in that case no fruit will be produced. In some cases, the workers are paid according to the number of petals removed (and collected in a small linen bag, carried in a string around the neck). This job requires some experience, but is mainly carried out by native workers at 10-20 cents per hour, if they are not paid by "accord" (i.e. according to number of flowers treated).

(To be concluded next month)

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TECHNICAL abstracts...

Essential Fatty Acids. H. J. Thomasson, (Unilever Research Laboratorium, Zwijndrecht, Holland), Fette, Seifen, Anstrichmittel, *57*, 390,(1955).—Using a new biological method for the evaluation of essential fatty acids (vitamin F), a great number of oils and fats as well as fatty acid preparations was tested. The results of the experiments indicate that the existence of double bonds in the positions 6:7 and 9:10 (counted from the terminal methyl group) is significant for the biological activity.

Sorbic Acid as a Fungistatic Agent. D. D. Puls, L. F. Lindgren and F. P. Cosgrove. (J. Amer. pharm. Ass., Sci. Ed., 1955, *44*, 85). Solutions containing 0.05 to 0.4 per cent of sorbic and benzoic acids were tested for fungistatic activity against *Aspergillus niger* and an unidentified species of penicillium. Paper discs soaked in the solutions under test were placed on plates of inoculated medium and the zones of inhibition measured after incubation at 30°C. Sorbic was superior to benzoic acid in these tests and appeared to be a satisfactory preservative for mucilages of acacia and tragacanth and for solutions of sugar gum and sucrose when stored at 5, 25 and 37°C. for 30 days. *Thru J. Pharm. & Pharmacology 7, 555 (1955).*

Proteolytic and Depilatory Activities of Actinomycetin. Jean Marie Ghuysen and Gaston Leger (Univ. Liège, Belg.). Compt. rend. soc. biol. *148*, 1691-3 (1954); cf. C.A. *47*, 6491c; *49*, 422d.—Actinomycetin, obtained from *Streptomyces albus* G, was shown to contain 5 distinct enzymes which attack, resp., heat-killed *Escherichia* coli, keratin, mucin, casein, and a component of the epidermis the destruction of which results in epidermal desquamation and loosening of the hair. The substrate of this last enzyme is a complex protein component of the skin extractable by urea soln. (with or without KCl) at 25°. Another fraction of the epidermis, extractable under similar conditions at 0°, appears to be sensitive to the keratinolytic enzyme. Thru C.A. *49*, 8374c.

Experimental Dental Caries. III. Effect of Estradiol and Diethylstilbestrol on Dental Caries, Fluorine Metabolism, and the Salivary Glands of Intact and Gonadectomized Rats. Wm. G. Shafer and Josph C. Muhler (Indiana Univ., Indianapolis). *J. Dental Research 33*, 842-8(1954); cf. C.A. *48*, 10901a.—Incidence of exptl. dental caries as compared to controls, was considerably lower in orchiectomized rats, higher in one series and lower in another series of ovariectomized rats. Administration of both diethylstilbestrol and estradiol to control and gonadectomized rats produced an increased incidence of dental caries in all cases except the intact males given diethylstilbestrol. The F concn. in the femurs of intact males and females given the 2 hormones was appreciably higher than in corresponding controls; this was also true of gonadectomized animals (male and female) except ovariectomized females given diethylstilbestrol. Gonadectomy per se apparently did not influence the F concn. The histological structure of the submaxillary gland was markedly altered by gonadectomy and administration of the 2 female sex hormones, but these findings could not be correlated with the alterations in the caries incidence. *Thru C. A. 49, 4142b*

A New Liquid Petrolatum-Jelly Base. J. W. Kaufman, H. M. Burlage, and W. R. Lloyd (Univ. of Texas, Austin). J. Am. Pharm. Assoc., Pract. Pharm. Ed. *16*, 234-6(1955)—Agar, methylcellulose, and tragacanth were studied as possible jelling agents for the base; tragacanth 2-3% produced the most satisfactory base. The jelly can be stabilized to fermentation by the addn. of benzalkonium chloride (1:5000 to 1:10,000). A consistency standard for the base is established. The nonirritant base is compatible with ammoniated Hg, coal tar, ephedrine sulfate, cade oil, pptd. S, and vioform; it is incompatible with org. acids, phenolic cmpds, and ichthammol. Thru C.A. *49*, 10582d.

The Corrosion Activity of Detergents in Pressure-Propelled Products. Wiley J. Pickett (Stepan Chem. Co., New York, N. Y.). Proc. Chem. Specialties Mfrs. Assoc. Dec. *1953*, 43-8.—Accelerated tests at 150-80°F. more accurately forecast the corrosibility at room temp. than those at 130-40°F. Partial filling of pressurized containers increase the rate of corrosion at room temp. Corrosiveness of lauryl sulfate salts in pressurized containers are in the order: triethanolamine<Na<NH_4. An inhibitor (not named) was found which reduces the corrosion activity of triethanolamine lauryl sulfate to a degree that appears to be commercially practical. *Thru C.A. 49, 5007f*

Discoloration of the Nails. Concomitant Use of Nail Lacquer with Resorcinol or Resorcinol Monoacetate (Euresol) As Cause. A. B. Loveman, M.D. and M. T. Fliegelman, M.O. Arch. of Dermatol. *72*, No. 2, 153-156 (1955)—Conclusions. Alcoholic preparations of both resorcinol and resorcinol monoacetate may produce a yellowish orange discoloration of the nails. This becomes manifest and of clinical significance only when nail lacquer has been previously applied. The above pigmentation has been reproduced experimentally by employing several commercial brands of both colored and colorless lacquers, including one of a hypoallergenic type. Using the ingredients of one well-known hypoallergenic nail lacquer, the authors were able to reproduce the pigmentation only by employing pyroxylin (nitrocellulose). It required longer to produce this discoloration than with the commercial lacquers, and the pigmentation was a lighter shade. Because of the more or less universal presence of resorcinol and resorcinol monoacetate in many dermatologic preparations, it is suggested that patients wearing nail lacquer be cautioned concerning the possibility of staining their nails and that reasonable preventive measures be employed.

Paper Chromatographic Identification of the Actinomycins. Leo C. Vining and Selman A. Waksman (Rutgers Univ., New Brunswick, N. J.). Science *120*, 389-90(1954).—Actinomycin samples from various sources were analyzed by paper chromatography with a solvent contg. most suitably, Bu_2O, EtOAc, and 2% 2-naphthalenesulfonic acid in the ratio 3:1:4. The 9 samples examd. showed a total of 5 digerent components: 7 showed 3, one showed 2, and one was homogeneous. Six showed identical components. *Thru C. A. 49, 1280g*

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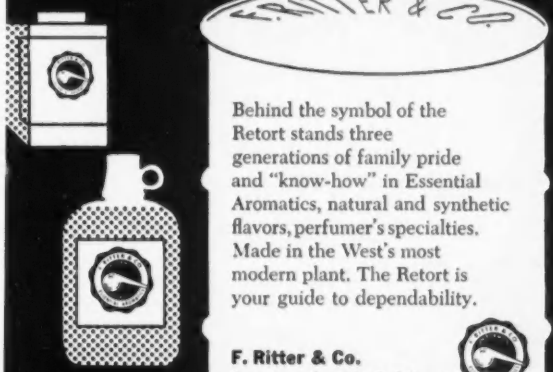

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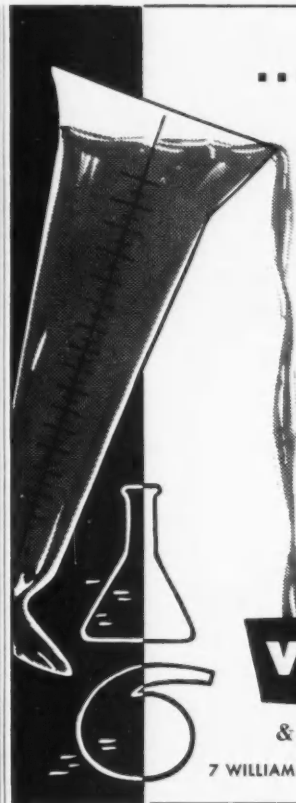

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News and Events

TGMA of Canada Elects New Officers at Convention

André Ligné, managing director of Coty (Canada) Limited, Montreal was elected president of the Toilet Goods Manufacturers Assn. at the 28th annual convention held at Whiteface Inn, Lake Placid, N. Y. on June 20. E. A. Williams,

André Ligné

president, Chesebrough-Pond's Canada Ltd., is past president of the association. Other officers elected were: 1st. vice-president, R. G. Fairbanks, president of Fairbanks Soap Co., Toronto; 2nd. vice-president, Gordon C. Savage, vice-president J. B. Williams (Canada) Ltd., Montreal; 3rd. vice-president, Frank R. McCallum, general manager, Lehn & Fink (Canada) Ltd., Toronto; honorary treasurer, J. I. Stampleman, president, Gillette Safety Razor Co. of Canada Ltd., Montreal; honourary-secretary, James M. Shaw, president, Noxzema Chemical Co. of Canada, Ltd., Toronto.

Directors appointed for the active and associate members were as follows: (western division, active): F. R. McBrien, president, Bristol-Myers Co. of Canada, Ltd., Toronto; Mrs. Adalene E. Johnston, president, Beauty Counselors of Canada Ltd., Windsor; George M. Thomson, Canadian Manager, Shulton Inc., Toronto; (eastern division, active) L. M. Parker, president, L. M. Parker Co. Ltd., Montreal; K. J. Eccles, vice-president, Roy C. Lewis, Ltd., Montreal; R. H. Smith, W. T. Rawleigh Co. Ltd., Montreal; and E. A. Phillips, vice-president, Parfumeries de Paris (Ltd.), Montreal. Associate directors, western division; W. D. McDonald, Sun Tube Corp. of Canada Ltd., Toronto; Fred Hodder, A. E. Long & Co. Ltd., Toronto; (eastern division): E. Bock, British Leather Goods, Montreal, and Alex Donaldson, Dominion Paper Box Co. Ltd., Montreal. Mrs. Agnes Howard is executive secretary-treasurer of the association, with offices in Toronto.

Prince Matchabelli-Seaforth Co. Moves to New Location

The new address of the combined offices of Prince Matchabelli, Inc. and the Seaforth (A. D. McKelvy) Co. is 415 Madison Ave., New York 17, N. Y. Simonetta, Inc., a subsidiary of Prince Marchabelli, is also at the same address. The telephone number, MUrray Hill 8-5900, is unchanged.

Prince Matchabelli and Seaforth are subsidiaries of Vick Chemical Co.

Henri Colonna was a Recent American Visitor

Henri Colonna, director-general of the Verreries Pochet et du Courval of Paris, was a recent visitor to this country. His organization, which was established in

Henri Colonna

1623, is one of the renowned perfume bottle factories in the world.

During his visit Mr. Colonna consulted with L. B. Sark, executive vice-president of the French Glass Co., Inc., which represents Mr. Colonna's firm in this country, about the extension of the supply operation to American perfumers, particularly in small quantities, and the prospects of establishing a new line of perfume bottles for over the counter selling.

FELTON CHEMICAL CO. NAMES TWO VICE-PRESIDENTS

Robert E. Felton

J. L. Weisman

Felton Chemical Co. has announced the appointment of two vice-presidents, Robert E. Felton and J. L. Weisman. Both have been with the organization for twenty-eight years.

Mr. Felton originally represented the company in the South, with headquarters in New Orleans, and subsequently was manager of the West Coast branch factory in Los Angeles. Five years ago he was called to Felton headquarters in Brooklyn as director of development and research.

Mr. Weisman has worked in a sales capacity throughout his career with Felton. He organized the firm's French branch. In recent years he has directed overall domestic and foreign sales on behalf of the company.

John Cassullo is President of Fritzsche Brothers, Inc.

John L. Cassullo has been elected to the presidency of Fritzsche Brothers, Inc., at a meeting of the company's board of directors on July 3. Mr. Cassullo succeeds John H. Montgomery as head of the eighty-five year old essential oil and aromatic chemical firm. Mr. Montgomery, whose tenure with Fritzsche spanned a period of over thirty years, retired from active service on June 30.

John L. Cassullo

At the same meeting Gustav A. Wohlfort and Ellis F. Merkl were elected treasurer and assistant treasurer respectively.

Plans for 1956 ACHEMA Congress are Under Way

The 12th Chemical Apparatus and Equipment Congress and Exhibition, is scheduled to take place in Frankfurt am Main during the period May 31-June 8, 1958.

Aromatic Products is Newport Industries Selling Agent

Newport Industries, Inc. has announced that Aromatic Products, Inc. is its exclusive selling agent for Menthol dl (Racemic) and Thymol N.F. The manufacturer states that production of these two products from natural terpenes rather than coal tar chemicals gives them a better and cleaner odor.

Both will be sold throughout the country by salesmen of Aromatic Products.

NBBMA Holds 15th Annual Convention

The 15th Annual Convention of the National Beauty and Barber Manufacturers' Assn. will be held in Chicago's Conrad Hilton Hotel on August 18. It immediately precedes the Dealers Trade Show of the Beauty & Barber Supply Institute which opens in the Hilton on August 20.

Convention Chairman Frank Rosendahl announces an interesting program, including addresses; reports and discussion periods on plans for an industry marketing research program; the Professional Cold Wave Committee's motivation study; how to deal with burdens imposed by the increasing number of local trade shows; barber recruitment and public relations programs; federal legislation and regulation and the petition to the I.C.C. for a lower shampoo freight rate.

A business meeting will open the convention, at which committee reports will be discussed and officers and directors elected for 1956-57.

Lehn & Fink Appoints Robert W. Naething

Lehn & Fink Products Corp. has announced that Robert W. Naething, former eastern regional sales manager, has been promoted to the new position of special assistant for field operations at the New York office. Lehn & Fink Division. He will handle special field sales assignments.

Dr. E. M. Huttrer Joins Hansella Machinery Sales Dept.

Dr. E. M. Huttrer has been added to the sales department of the Hansella Machinery Corp., to serve the confectionery industry.

Dodge & Olcott Has New Officers

A new slate of officers has been named by Dodge & Olcott, Inc. Frederick H. Leonhardt, Jr., is the new president.

The other directors are: R. V. Behrens, vice president and treasurer; V. H. Fischer, vice president; J. P. Bauer, vice president; E. M. Behme, secretary; Louis Young, assistant treasurer.

Frederick H. Leonhardt, Jr.

EASTMAN CREATES CHEMICAL SALES SECTION

William M. Gearhart

R. B. Herring

Eastman Chemical Products, Inc., subsidiary of Eastman Kodak Co., has created a new chemical sales development section which is to be operated independent of its commercial sales department.

William M. Gearhart, formerly chief chemist in charge of the service and development laboratories of the company at Kingsport, Tenn., has been appointed manager of the new section. R. B. Herring, who had served as assistant to Mr. Gearhart, has been promoted to fill the position as chief chemist in charge of the laboratories, which will continue to be operated under Mr. Gearhart's supervision.

In creating the new sales development section, the company plans to continue emphasizing the service nature of the laboratories in dealing with customer problems connected with the sale of products already on the market. Under the new arrangement, all work with products being considered for the first time, and those in the development stage, will be assigned to the new chemical sales development group. Mr. Gearhart and his staff will have the responsibility for coordinating all laboratory work and industry contacts in bringing new developments to commercial status. At this point, responsibility for handling such products and establishing normal customer contact will be transferred to the commercial sales department and its field representatives.

BOURJOIS PLANS INCREASE FOR EVENING IN PARIS ADVERTISING

Meeting to discuss the increased holiday advertising campaign for "Evening In Paris," a product of Bourjois, Inc., are (seated, left to right) Louis H. Bonham, president of Bourjois, Inc.; Herman Nolan, executive vice-president, McKesson and Robbins; Henry O. Nolan, Bourjois' vice-president in-charge of sales and Janet Meyers, Bourjois publicity director. Standing are (left to right) Lawrence C. Gumbinner, board chairman of the Lawrence C. Gumbinner Advertising Agency, Inc., agency for Bourjois and Joseph Lawrence, advertising director of Bourjois. The holiday advertising drive represents an increase of 50% over last year in television, with participations on NBC-TV's "Today," "Home," and "Tonight." Full page color ads are planned for national magazines.

Heyden to Construct Plant in New Jersey

Heyden Chemical Corp. will construct a new plant at Fords, N. J. for the manufacture of resorcinol, an essential ingredient in waterproof glues and adhesives which are finding increasing use in industrial applications. Engineering is now under way, and construction is to begin early in 1957. Completion is planned by December 1957.

Warner-Lambert Has Opened Major English Installation

Warner-Lambert Pharmaceutical Co., New York, has opened a $1.5 million manufacturing plant in Eastleigh, England. The opening ceremonies were attended by chairman Elmer H. Bobst and president Alfred E. Driscoll.

The plant comprises 104,000 square feet on a sixteen-acre site near Southampton in the county of Hampshire. It will manufacture $5,000,000 worth of pharmaceuticals and cosmetics annually for distribution in the United Kingdom. The plant will employ 300 employees. P. G. E. Warburton is managing director.

Temporarily, Warner-Lambert will continue to operate its 53,000 square foot plant at Power road, Chiswick, London. The company eventually plans to transfer all operations and personnel to extended facilities at the new plant in Eastleigh.

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Continental Can and Hazel Atlas to Merge

Plans for merger of the businesses of Continental Can Co., Inc. and Hazel-Atlas Glass Co. have been announced by General Lucius D. Clay, chairman of Continental Can, and John Harrison McNash, chairman of Hazel-Atlas. The agreement, which will unite an industry leader in the packaging field with a major manufacturer of glass containers, has been approved by directors of each company. It is subject to approval by stockholders of Hazel-Atlas at a special meeting to be called for some time in August.

The terms of the plan provide for shareholders of Hazel-Atlas to receive 999,141 shares of Continental Can common stock. This will result in a ratio of 46/100 share of Continental for one share of Hazel-Atlas. At 1955 year end, Hazel-Atlas had total assets of $37,884,425 and working capital of $19,904,256. Total assets of Continental Can at year end were $381,917,101 and working capital of $110,815,816.

Since Continental has not heretofore been in the glass container business, managements of the two companies consider the consolidation a logical step in the development of the company's broad diversification in the packaging field, enabling it to meet practically every packaging requirement of its customers.

Hazel-Atlas, founded in 1901, is engaged primarily in the manufacture of glass containers for food products, cosmetics, toiletries, beverages and drugs, and of glassware. In 1955, the company earned $1.86 per share on net sales of $79,919,794. For the three months ended March 31,1956, sales amounted to $18,281,309 and net earnings were 19 cents a common share.

McKesson & Robbins Reports Top Sales

On record-breaking sales of $530,324,516, net income of McKesson & Robbins, Inc. in the fiscal year ended March 31, 1956 was $8,802,214, equivalent to $4.75 a share, according to the audited annual report of the company mailed to stockholders June 16. The net income was after provision of $9,778,040 for federal income taxes.

Changes in Program of SCC Third Cosmetic Seminar

The directors of the Society of Cosmetic Chemists, in response to the many requests for reservations for the Third Cosmetic Seminar, have voted to increase the total attendance to 250. This has necessitated a change in the scheduled dates of September 27-28 to October 4-5, in order to obtain the auditorium of the Barbizon-Plaza Hotel for the meetings. The two luncheons, cocktail party and dinner will be held at the New York Academy of Sciences.

The two-day program has been amended to include the names of additional moderators and guests, as follows:

1. Biochemistry of epidermal keratinization: round table discussion by Dr. Franz Hermann and Dr. Rudolf L. Baer, both of the New York University—Bellevue Medical Center; Dr. Earl O. Butcher, New York University; and Dr. Irvin H. Blank, Massachusetts General Hospital.

2. Theory and application of viscosity in cosmetics: round table discussion by George J. Rosenblit, Bendix Aviation Corp.; Frank D. Dexter, Bakelite Co.; and Romuald Bulas, Interchemical Corp.

3. Modern emulsification techniques: "Continuous Processing of Cosmetic Products in Votator Apparatus," by John P. Bolanowski, The Girdler Co.

Round table discussion by Dr. Donald M. Skauen, University of Connecticut and S. J. Strianse, Shulton, Inc.

Moderator of the section is Dr. S. D. Gershon of Lever Brothers Co., Research and Development division.

Luis de Hoyos, left, vice president of Synfleur Scientific Laboratories, Inc., discusses one of the paintings from his extensive Latin-American collection exhibited at Colgate University in recognition of Pan American Week. Prof. Alfred Krakusin, of the fine arts department, admires the painting "El Nino," by the Mexican artist Raul Anguiano.

DCAT Supports Federal Foreign Trade Legislation

Support for federal legislation which would, in certain instances, allow importers to return unfit goods to foreign suppliers has been made by the Drug, Chemical and Allied Trades Section of the New York Board of Trade.

BIMS Holds First Tournament of Year

BIMS held its first golf tournament of the year on June 19 at Baltusrol Golf Club, Springfield, N. J. Harry Griffiths was in charge of prizes.

The next tournament is scheduled for July 24 at Winged Foot Golf Club, Mamaroneck, N. Y.

Mennen Co. Promotion Features Display Contest

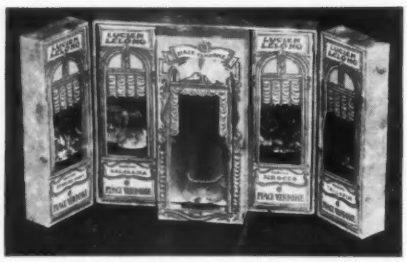
Officials of the Mennen Co. have announced the launching of the most extensive summer trade promotion in the company's history. Highlighting the drive will be a $25,000 prize contest which will be open to drug trade retailers and their store personnel from coast to coast.

The contest is believed to be the first of its kind to be widely used in the drug trade. Entrants will be required to test their merchandising skill by ranking nine pictures of typical retail displays in order of sales pulling power.

The final outcome will be determined by matching retailers' rankings of displays with selections made by a five-man panel of top authorities in the drug industry. The panel's selections have already been completed and mailed to the Reuben H. Donnelley Corp.

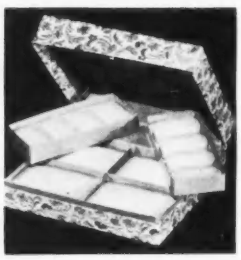
Joseph A. Danilek, president of Mary Chess, Inc., at Idlewild Airport on his way to visit Mary Chess Ltd. in London. After London he made a visit to Paris and environs.

COSMETIC WINNERS OF THE SIXTH ANNUAL SET-UP PAPER BOX COMPETITION



Lucien Lelong: First award in cosmetics, second award in best display box for gift-display unit.

Mary Chess: Second award in cosmetics, and honorable mention for best display box.



Hewitt Soap Co.: First award winner for the soap category.

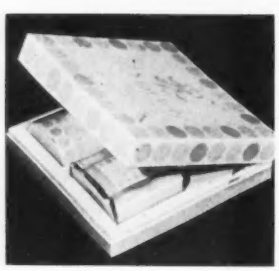
Procter & Gamble Co.: Drene, honorable mention for soap.

Coty, Inc.: Sirocco perfume, 1st award transparent boxes.

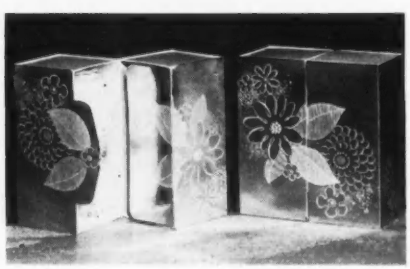
Lever Brothers Co.: Lux gift pack was 2nd award winner for soap.

J. R. Watkins Co.: Honorable mention best surface design.

Prince Matchabelli: Honorable mention in surface design.



J. R. Watkins Co.: Honorable mention for surface design.



Avon Products, Inc.: Honorable mention in cosmetics for gold foil covered set-up tray box.

The 1956 Sixth Annual Set-up Paper Box Competition produced 85 award winners from the equivalent of 2600 entries. Awards were presented and entries displayed in San Francisco during the National Paper Box Manufacturers Assn.'s convention and "Boxarama" exhibit. Seven packaging experts judged entries in twenty-one product categories, and selected those boxes which rated special recognition for superiority in display, construction and surface design. There were 25 first awards, 24 second and 36 honorable mentions. The cosmetic and soap winners are illustrated on this page.

Provocative "silent selling" was observed to be on the increase. More and more boxes "suit" the product packaged. More incorporate display features, riding the tide of self-service merchandising. Devices employed in boxes that "sell" were: matching or contrasting the box wrap colors with contents, smart art design to highlight product features, succinct well placed sales copy, and construction to "suit" the product.

SPOTLIGHT News...

M. M. Ricketts has purchased Select Beauty Products, Houston, Texas which has been distributing beauty parlor supplies for a quarter of a century. Mr. Ricketts was formerly associated with Commercial Solvents Corp., Merck & Co., Warner Pharmaceutical Co., Wyeth Laboratories and Strong, Cobb & Co.

To uphold the standards of baby care the Mennen Co. has established the Mennen Baby Foundation. Offices are at 430 Park Ave., New York, N. Y. The foundation will undertake research in baby care under the direction of Sidonie M. Gruenberg.

Annoying insects are driven away from the face and body if a new type of insect tissue, Repellen Tissue, offered by Whitmire Research Laboratories is employed. It contains a built in insecticide and is applied like facial tissue. It is offered in a purse size plastic pouch containing ten reusable tissues.

Jacqueline Cochran is now in politics since she secured the Republican nomination for Congress in the 29th Congressional district in California. The head of the cosmetic company which bears her name has achieved laurels as an aviatrix over the years.

A blemish stick that matches the specific powder shades in the Lady Esther cosmetic line has been introduced by the Lady Esther Division of the Chemway Corp.

Charm-Kurl, an old established product in the home permanent wave field, has been purchased by the Toni Co.

Chester Smith, former president of Esso Standard Oil Co. and a director of the Standard Oil Co. of New Jersey, has been elected a director of van Ameringen-Haebler Inc. He has been decorated by the French and Belgian governments with high honors.

The Brooklyn-Long Island Toilet Goods Show will be held at the Hotel St. George, Brooklyn, September 16-21. Information about it may be had from E. R. Commons, 139-06 231 St., Laurelton, N. Y.

Cosmetic Dermatology will be among the six main themes of the Eleventh International Congress of Dermatology, July 31-August 6, 1957 in Stockholm, Sweden. Full information about the Congress may be had from Dr. Herman Goodman, 18 E. 89 St., New York, N. Y.

There is a probable relationship between poor teeth and heart disease, malnutrition, arthritis, rheumatism, kidney disorders and even cancer of the mouth, according to Dr. Harold Hillenbrand, secretary of the American Dental Assn.

The most viewed television program of the 1955-1956 season was the $64,000 Question of Revlon Products Corp., according to the American Research Bureau.

In the tradition established by Queen Victoria, Roger & Gallet, the toilet goods house, has been appointed suppliers of soaps to Her Majesty Queen Elizabeth II.

Sales for Hazel Bishop Inc. for the period between November 1, 1955 and April 1, 1956 were $6,103,000, an all time high. Earnings this year are expected to be the largest in the company's history.

New carbonated soft drink tablets known as Fizz-Ade are being marketed tested in Los Angeles by the Kellogg Co. The tablets, which make a soft drink when dropped into a glass of water, come three to a package and in six flavors.

House to house selling concerns in all categories made sales of $4,400,000,000 in 1954, according to the U. S. Census of Business. The proportion of cosmetic sales was not given.

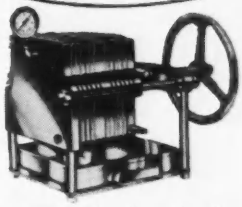
Active members of the American Section of the Societe de Chimie Industrielle are: Philip Cortney, president, Coty Inc.; Pierre Bouillette, Givaudan-Delawanna; Maison G. de Navarre; Dr. Foster Dee Snell, Dr. Victor G. Fourman, president, Syntomatic Corp.; Maurice A. Meunier, Les Parfums de Dana; and Denis I. Duveen, president, Duveen Soap Co.

A new shipping policy of prepaying freight instead of freight allowances has been adopted by Roger & Gallet.

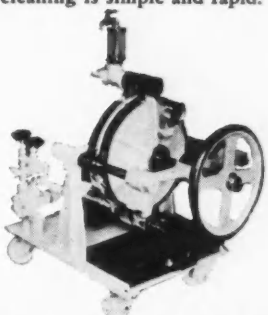
En route to Europe or already there are President Lewis F. Bonham, president of Bourjois Inc. and Mrs. Bonham who will be away two months; Charles Bryan, Firmenich & Co.; and Mr. and Mrs. Philip Chaleyer. Fred Shoninger, president of Antoine Chiris Co., has just returned from England.

Clarence Morgan Inc. has moved from 325 N. Wells St., Chicago to 320 W. Ohio St. Offices and warehousing facilities have been combined.

For FILTERING and FILLING



MODEL 8 ESS – Excellent for filtration of perfumes, essential oils and other liquids. Made from stainles steel either cast or rolled stock, precision machined and highly polished. Easy to set-up, screens can be removed quickly and cleaning is simple and rapid.



MODEL EBW – This filter is recommended for small batches where filter aid is required. Design eliminates need for rubber washers... asbestos filter sheets form their own seal

PORTABLE VACUUM BOTTLE FILLER Will fill small or batch lots of material at lowest cost. Fills bottles to uniform height without loss of material. Various spouts for filling shaker-type bottles to gallons.

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Philadelphia College of Pharmacy Holds Commencement

The one hundred thirty-fifth commencement of the Philadelphia College of Pharmacy and Science in Philadelphia, Pa., was held on June 11. Among those receiving the honorary degree of Doctor of Science was Emil G. Klarmann, vice president of Lehn and Fink, Inc.

Retail Excise Taxes May Be Prepaid

The Internal Revenue Service has issued a ruling that retailers may compute and prepay retail excise taxes at the time they purchase the taxable articles rather than at the time they sell them. Each retailer must request permission from his District Director of Internal Revenue to engage in this practice.

Where taxes are paid under this plan and the articles subsequently sold at higher prices, the additional tax must be paid; if there are excess tax payments, a credit or refund will be allowable.

Misbranded Hormone Hair Cream Ordered Destroyed

A report of a charge of misbranding of a hormone hair cream which was destroyed by court order has been released in a list of federal cases tried under provisions of the Food, Drug and Cosmetic Act. Six dozen 1-ounce and 100 2-ounce jars of the product shipped by Wanasco Laboratories from Nebraska to Iowa in 1953 were charged with misbranding in that statements on the label suggested that the article was an effective treatment for baldness and for preventing baldness.

The consignee of the product having filed a claim and answer to the charge but later having withdrawn it, judgment of condemnation was entered.

New Pharmaceutical House Begins its Operations

Pharmco, Inc., has been organized to serve the private formula trade in cosmetics, pharmaceuticals and the chemical specialities fields. The company is designed to supply the needed research know-how in these expanding industries.

Dow Chemical Develops New Plastic Material

Dow Chemical Co., Midland, Mich., has developed a thermoplastic material, based on styrene and acrylonitrile, which it expects to develop into a complete new family of plastics.

The material, called "Styrex," will become commercially available this fall.

The product is a rigid material which can be readily molded or extruded into various shapes and forms, according to D. L. Gibb, sales manager of Dow's plastics department.

Obituary

Cecil H. Gamble

Cecil H. Gamble, former secretary and director of Procter & Gamble Co., Cincinnati, Ohio, died June 19 in Pasadena, Calif. He was seventy-two years old.

Dr. Doane Hage

Dr. Doane Hage, for many years associated with the Arthur Colton Co., Detroit, Mich. as a sales expert on pharmaceutical and cosmetic machinery, died May 21 in De Bary, Florida at the age of 69 years. He retired some years ago and moved from New York, where his office was located, to Florida. He was born in Goldsboro, N. C. Christmas day, 1886. He is survived by his widow and a son.

William H. Gesell

William H. Gesell formerly director of manufacturing for the Lehn & Fink Products Corp., and a vice president of the company, died June 6 at the age of 65 years. He resided in Montclair, N. J.

Dr. Hugo Toelle

Dr. Hugo Toelle, president of Toelle Pharmaceutical Chemical Corp., Newton, N. J. died May 31 in Lake Mohawk, N. J. at the age of 59 years.

BASE LIERRE LB

The intriguing, characteristic odor of ivy leaves has been subtly captured and blended in this new creation by Laboratoires Louis Bornand, of Neuilly, France.

This original note has been used but little so far and we believe that it should retain the attention of the perfumer on the look-out for a really different base for modern high class perfumes.

Sample and quotation upon request

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PERSONALITIES

Victor A. Pizzolato has been named to the new position of assistant product manager for Hinds Honey & Almond

Victor A. Pizzolato

Fragrance Cream and Etiquet deodorants at Lehn & Fink Products Corp. Mr. Pizzolato will assist in all supervisory marketing phases for both products, including sales management, sales promotion, merchandising, and advertising, under the new product manager system.

John McKee-Norton has been appointed managing director of Mary Chess of Canada, Ltd. He was formerly associated with Yardley, Elizabeth Arden, and Richard Hudnut. Mr. McKee-Norton's headquarters are in Montreal.

John McKee-Norton

Philip Libson, purchasing agent for Max Factor & Co., was the only guest speaker on June 25 at the 41st annual convention of the Pacific Coast Paper Box Manufacturer's Assn. His subject was "Packaging From A Purchasing Agent's Viewpoint."

John W. Solomon, who for many years was connected with Coty Products Corp., was recently elected vice president of Coty, Inc. He will continue to be in charge of production for all of the Coty companies.

John W. Solomon

John Erich Krost and **John Gaul** are respectively plant manager and purchasing agent of the Hercules Filter Corp., which is now established in its new home in Hawthorne, N. J.

Jean-Paul Baude has rejoined the New York staff of Felton Chemical Co., Inc., in the capacity of perfumer. He came from Grasse, France seven years ago, and entered Felton's Brooklyn operation. He subsequently served the company in Versailles, France and Montreal, Canada, and is now back in Brooklyn to implement the company's expanding staff of perfume chemists. M. Baude received his practical training in Grasse with such firms as Lautier Fils and Mero et Boyveau.

Jean-Paul Baude

William Lee Sims II, president of the Colgate-Palmolive Co., was one of featured speakers at the dedication ceremonies of the company's Division of Dental Medicine on the campus of Rutgers University in New Brunswick, N. J. The research facility will be operated in cooperation with the university.

William Lee Sims II

John M. Fox, president of Minute Maid Corp., has been elected president of the Sales Executives Club of New York.

Richard E. Brainard has been elected a vice president of Shulton, Inc. He will head the fine chemicals division. Since joining the company in 1945 he has served as production manager of toiletries, assistant to the president, and manager of the fine chemicals division. Mr. Brainard is a graduate of Harvard University with a B.A. degree in chemistry, and has done graduate work in chemical engineering at the Massachusetts Institute of Technology.

Richard E. Brainard

Per Wivel of Madsen & Wivel, cosmetic distributors and manufacturing agents in Copenhagen, Denmark, has

Per Wivel

returned after spending several weeks in the United States calling on various companies in the trade. His concern represents Yardley & Co., Christian Dior, Parfums Worth, Alfred and Mary Dunhill, and the Northam Warren Corp.

Arthur Noto has joined Germaine Monteil as associate sales manager to W. D. Huyler, general sales manager of the American companies of the corporation.

John H. Thomas has been appointed advertising manager of Tussy Cosmetiques, one of the three major divisions of Lehn & Fink Products Corp. In his new position, he will supervise and coordinate all national campaigns and cooperative advertising programs for Tussy, including print and radio-television media, and point-of-purchase merchandising displays.

Jerry Samore has joined the sales staff of the Lady Esther division of the Chemway Corp. He will cover the west coast states.

Howard W. Dillon has been appointed sales manager of Alpine Aromatics Inc.

Bradley Dewey, president and founder of Bradley Container Corp., has announced his retirement from administrative duties with that company. His appointment as a consultant to top management and a special representative for Olin Mathieson Chemical Corp. in the field of plastic squeeze bottles and other matters was also announced. Mr. Dewey was for 33 years president of Dewey and Almy Chemical Co. He is a life member of the Corporation of Massachusetts Institute of Technology and a member of the Advisory Council for Science and Engineering of the University of Notre Dame.

Gustav Carsch has been appointed to the technical staff of Lanolin Plus, Inc., Chicago, as chief perfumer. He has previously held comparable positions with other large cosmetic manufacturers, and for several years was active in the perfume raw materials field. He is a member of the American Society of Perfumers and the Society of Cosmetic Chemists.

Gustav Carsch

Donald Heitaus, formerly of Procter & Gamble Co., has been appointed midwest representative for P. Robertet Inc., and Taconic Natural Oils.

ESSENTIAL OILS •
Boisolene
Jasmin de Provence B
Muguet Isoflor A

AROMATIC CHEMICALS •
Cassie Isoflor
* **Honeysuckle #500**
Jasmin Fleurs D
Jonquille Isoflor
Rose d'Orient #1
Tuberose Isoflor

PERFUME SPECIALTIES
Jasmarome
Lilas Isoflor B
Violette de Provence

*** HONEYSUCKLE NO. 500**

This oil reproduces the sweet, tenacious fragrance of the honeysuckle flower. Effective as a basis for honeysuckle perfumes or in compositions where an extremely flowery note is desired.

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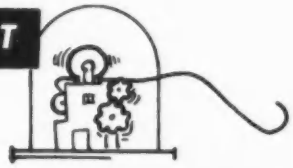
MARKET REPORT



Market Trends Are Mixed . . .

COUMARIN, methyl salicylate, and crude glycerin all scored advances over the past month, and increased container, labor and other costs forced drum prices on an extended line of chemicals up a full cent to a cent and one-half a pound. Various formulae of industrial ethyl alcohol were also advanced. The higher quotations became effective July 1. The amount of the advances varied depending upon denaturant costs. Price movements in essential oils were largely downward and competition in menthol and camphor was keener.

PRICE CHANGES

Advances	Current	Previous
Bromides, lb.—		
Ethyl	0.44	0.43
Potassium	0.38	0.36
Coumarin—		
25-lb. drums	$3.70	$3.55
200-lb. drums	$3.60	$3.45
Glycerin, crude—		
Soap lye	0.17	0.16½
Saponification	0.19	0.18½
Menthol, Japanese	$7.75	$7.50
Candelilla wax—		
Crude	0.70	0.66
Refined	0.75	0.69
Alcohol, proprietary solvent, gal.—		
Carlots, drums	0.66	0.61
Less carlots, drums	0.71	0.66
Salicylates—		
Methyl	0.59	0.56
Sodium	0.77	0.74
Declines		
Menthol—		
Synthetic laveo	$6.50	$6.75
Brazilian	$6.05	$6.25
Oil rosewood (bois de rose)	$3.00	$3.25
Gum rosin, water white, South, cwt.	$8.13	$8.15
Coconut oil, crude, tanks	0.11	0.12⅝
Tallow, extra	0.06⅞	0.07⅜

Prices per pound unless otherwise specified.

SHARP BREAK IN CITRONELLA—

A development of interest in citronella oils was the sharp break in shipping prices out of Formosa, especially for October. While reports from the primary center earlier this year had indicated a marked increase in world demand for the article, the break in shipping prices as well as the frequency of offerings led dealers here to believe that this year's production of oil has been large, and stocks in the primary center have become burdensome. Spot prices have been slow to reflect the decline due to small stocks, and the fact that the local holdings had been purchased earlier this year at high prices.

COUMARIN HIGHER—

It was more than a year ago when producers voluntarily discontinued the sale of coumarin for edible purposes, but in spite of this, its use in cosmetics, perfumes and a general line of industrial applications has been running at a high level. Prices were moved upward to $3.70 per pound in 25-pound drums and $3.60 per pound in 200-pound drums. They are 15 cents a pound above those previously in force.

MINT OILS STEADY—

Mint oil prices remained remarkably steady over the past several weeks. Normally dealers become rather impatient as another new producing season rolls around and there is a tendency to shade prices in order to reduce inventories of old crop oils. In the case of spearmint, the market was generally on the firm side over the greater part of the month.

ROSEWOOD DECLINING—

Oil rosewood or bois de rose prices registered further losses over the past month. In the face of the steady downward trend in prices over the past several months buying was extremely limited which in turn served to aggravate the situation. The competitive situation started many months ago when shipping prices on Peruvian rosewood began to decline.

RISE IN SALICYLATES—

Producers boosted methyl and sodium salicylates by 3 cents per pound. The advance established methyl salicylate in 500-pound drums at 59 cents and in 45-pound drums at 64 cents a pound. New prices on sodium salicylate range from 77 cents to 79 cents in 100-pound drums. The upward adjustment in prices was said to have been due to mounting raw material costs as well as rising labor and manufacturing costs.

GLYCERIN POSITION FIRMS—

Glycerin stocks declined for the first time in many months, and prices on domestic crude material moved fractionally higher to the basis of 17 cents per pound for soap lye and 19 cents for saponification. For a time it was believed glycerin stocks would reach 60 million pounds before leveling off, but based on official figures released over the past month, stocks dropped to 56,596,000 pounds in April from 59,191,000 pounds in March. The period is approaching when output of natural glycerin normally drops. Soap plants usually close down for repairs in July, thus affording an opportunity for workers to take their annual vacations.

CAMPHOR ARRIVAL—

Two lots of natural powdered camphor arrived here over the past month. The shipments amounting to 1,600 cases were from Formosa. While the fresh lots failed to have any material influence on domestic synthetic prices, nevertheless it was understood that the natural product was being offered here at from 2¢ to 3¢ per pound below domestic prices at a time when the call for powdered material is usually at a seasonally low level. Normally powdered camphor enjoys a brisk demand in the fall months.

CITRUS OILS ACTIVE—

While off to a rather late start because of low temperatures during April and May, demand for the general group of citrus oils turned more active toward the close of last month following the sudden turn in weather conditions. Considerable more buying interest has developed in Exchange Brand Californian lemon oil since the decline of a $1 per pound in May. The reduction establishing Exchange oil at $5 narrowed the spread between the independent brands and the Exchange brand. Lime oil shared in the improvement along with orange.

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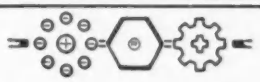

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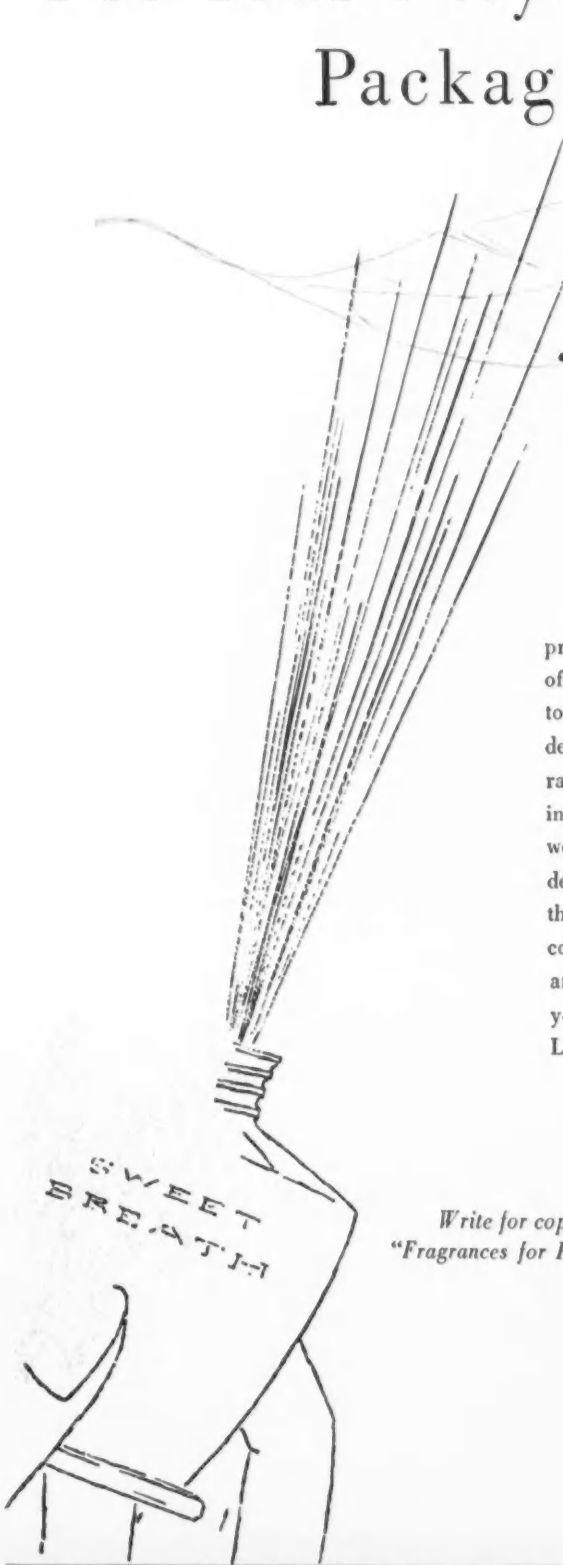

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